Malnourished children: An economic approach to the causes and consequences in rural Thailand

Sirilaksana Chutikul

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ABSTRACT This study undertakes an economic analysis of the causes and consequences of malnutrition among young children in a rural setting. Parents are viewed as productive agents who make interrelated decisions regarding their family size, labor force participation, expenditures, and intrahousehold distribution of resources in the face of constraints imposed by their resource limitations and a given "production technology."

The study utilizes data on preschool and school-age children obtained from a village-level survey in Northeastern Thailand and finds a familiar pattern of low income, high fertility, low nutrient intake and poor nutritional status and health. One finding, however—that mother's work in the formal labor market is detrimental to child nutrition—is unexpected and has important implications for policies designed to augment income through formal-sector job creation. The analysis also reveals that malnutrition and high fertility have adverse effects on the mental ability of the school-age children in the sample. By controlling for the environmental effects on intellectual development, the study offers some evidence to support the still-debatable contention that malnutrition has a direct, independent link to poor mental ability.

THE PROBLEM OF MALNUTRITION

During the past two decades economic growth has been achieved in many developing nations on an unprecedented scale. Gross national product (GNP) has increased at an average rate of some 5 to 8 percent per annum, and a high level of affluence has been attained in the capital cities. Yet, in the midst of growth and modernization, a large proportion of the population in these countries still lacks what the World Bank calls the "basic needs," consisting of sanitary housing, adequate clothing and food, and opportunities for learning. Realization that improvement in the quality of life should be the ultimate goal of development has led planners and policymakers to shift their attention from the pursuit of economic growth per se to concern over equity and distribution.

The case for this new approach can be made from another perspective. Any development scheme that overlooks the fundamental needs of the populace can at best be likened to an impressive superstructure built on shifting sand. The process of economic change is itself dependent upon the development of the country's human resources, and, as several studies testify, qualitative improvements in a nation's human capital form an integral part of economic growth (see, for example, Denison 1967; Jorgensen and Griliches 1967).

Malnutrition in childhood, and the morbidity it causes, can be seen as one of the most serious obstacles to the full development of a country's resource potential because of its pervasiveness. The problem is particularly severe in developing countries plagued with rapid population growth and glaring inequalities of income and educational opportunities. Developing countries typically have a high proportion of the population in the youngest age groups, and it is known from medical studies that infants and children up to 5 or 6 years of age are among those most vulnerable to the ravages of malnutrition. UNICEF figures reveal malnutrition in combination with infectious disease to be the most important cause of child mortality in developing countries (UNICEF 1978). Berg (1973:4) notes that 57 percent of the deaths occurring to children in Latin America between ages 1 and 4 can be traced to malnutrition.

Types of malnutrition

Malnutrition manifests itself in various ways. First, *undernutrition* occurs when the general level of bodily intake is inadequate. (The problems of determining adequacy of intake are discussed in Appendix A.) *Protein–calorie malnutrition* (PCM) is the term used to describe dietary deficiencies in both protein and calories. Although the distinction is no longer as clear as it was once thought to be, the condition is called *marasmus* if the deficiencies are largely in calories and *kwashiokor* if they are largely in protein. Second, the lack of essential nutrients in the diet may give rise to *deficiency* diseases. Pellagra, scurvy, rickets, and anemia are among the diseases caused by deficiencies in certain vitamins and minerals.[1] Another kind of nutritional problem occurs when the ability to digest food and absorb nutrients is impaired by genetically or environmentally induced illness. Such illness results in *secondary malnutrition*. Finally, *overnutrition* results when too many calories or excess amounts of particular nutrients are consumed. Although this last type of malnutrition may be seen as a disease of affluence, giving rise to such conditions as obesity, that is not necessarily the case. For example, overconsumption of sugar or starch may be associated with poverty or inadequate knowledge of nutritional requirements, especially at times of cultural or environmental change.

Protein–calorie malnutrition in young children—the focus of this paper—is the form of malnutrition, or undernutrition, commonly encountered in developing countries and is most prevalent among the young. Generally-accepted standards exist for measuring PCM in children, making the task of defining this form of malnutrition more tractable. Malnutrition may be likened to insanity: difficult to define, yet obvious in its extreme state, so that its measurement is imprecise in in-between cases. For young children, however, some degree of precision has been achieved and standard measures are widely advocated by nutritionists. Of all the types of malnutrition, PCM is likely to be the most closely related to parental decisions—for example, decisions about desired family size and the allocation of family resources. The larger the family, the more thinly resources have to be allocated among family members, and this is likely to be related more to the incidence of PCM than to other kinds of nutritional disorders. In contrast to PCM, other forms of malnutrition are specific deficiencies (or excesses), which in developing countries usually stem from the unavailability of particular nutrients in certain geographical locations. For example, goiter, a disease caused by lack of iodine, is common among inland peoples because iodine is found mainly in seafood. These specific deficiencies can be compensated for by technological means, such as fortifying certain foods, because their causes are known. PCM, however, may require a more complex set of solutions involving behavioral changes at the individual or family level, thus warranting closer investigation. The incidence of PCM is fundamentally an economic problem because it reflects inadequacies in overall food consumption. It is therefore related to the broader economic problems of resource availability, efficient utilization, and optimal distribution.

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[1] The causes of the deficiency may be complex. For example, anemia can result from an iron-deficient diet or from other causes such as parasitic infection, which may be complicated by low iron intake or by the intake of substances that lead to excessive iron excretion.

The effects of protein-calorie malnutrition

PCM affects the growth and development of children in three important ways.

First, physical growth may be permanently retarded by malnutrition in infancy and childhood. Early childhood is the period of highest growth, and inadequate energy or protein intake prevents the creation of new tissues. When the body does not receive enough calories, any protein intake will be used for energy purposes rather than for body-building (Whitney and Hamilton 1977). This results in physical retardation and stunting, which are hindrances to task performance. Productivity loss can be serious if malnutrition is widespread.

The second way in which PCM affects children's development is that it leads to high susceptibility to disease. It weakens the body and lowers resistance to infection, thus further inhibiting productive ability.

PCM in childhood may also impair the mental skills that are crucial for basic learning. Whether the effects of such afflictions are reversible, however, remains debatable. Selowsky and Taylor (1973) present evidence that malnutrition in the first year of life can have irreversible adverse effects on mental development even if nutrition later becomes adequate. Johnston and Clark (1979) argue, however, that recovery from mild to moderate degrees of malnutrition is usually possible. Although some tests for permanent brain damage, based on laboratory experiments with animals, suggest that malnourished animals can be rehabilitated by subsequent feeding (Levitsky 1976), the dangers of making inferences about humans from animal experiments are well known.

It is difficult to establish a causal relationship between malnutrition and mental retardation because malnourishment and the lack of environmental stimulation have similar effects on mental ability. Malnutrition rarely occurs in isolation. It is usually encountered in a poverty-stricken, overcrowded environment that stifles responsiveness to intellectual stimuli. Nevertheless, overwhelming evidence indicates that malnutrition and poor mental development are closely related, even though the actual causal mechanism is unclear (Cravioto and de Licardie 1973). Apart from humanitarian concerns, the effects of malnutrition on the brain have important implications for future economic productivity, since the effectiveness of skill training hinges upon the ability to learn.

Governments of many countries have introduced various measures designed to alleviate malnutrition. Extensive feeding and demonstration programs, fortification of food items, and development of high-protein foods have all been considered as solutions to the problem. But malnutrition itself has yet to be clearly understood and the causes and effects determined.

The task of ascertaining the causes of malnutrition can be approached from a macro level by determining the role of regional price differentials and the system of food distribution in a country. It can also be viewed from a micro perspective by investigating household behavior. Here attention is focused on rural households and the microlevel behavioral factors and resource constraints that can lead to malnutrition among rural children. In addition, the effects of malnourishment on the ability to learn are explored.

THAILAND AS A STUDY AREA

Thailand has long been a food exporter, and yet many groups of people in various parts of the country suffer from illnesses caused by inadequate diets. Thailand's nutrition problem is typical of the Southeast Asian region. The diet consists mainly of rice, and mild to moderate protein-calorie malnutrition is common. Pockets of malnutrition exist in both rural and urban areas where conditions are particularly severe (Stoecker 1979). A recent survey by the Ministry of Public Health, Nutrition Division (1982), of preschool children throughout the country (excluding Bangkok) found that 55 percent of the sample were malnourished. The problem is most pressing in Northeastern Thailand, where more than 35 percent of the country's estimated 50 million people reside. Its land is the least fertile, and its inhabitants have the lowest per capita income in the country. Because of political priorities, the inherent unproductiveness of the soil, and the generally low bargaining strength of the local people, Northeastern Thailand has until recently benefited the least from rural development programs.

One ready, if rough, indicator of regional imbalance is the pattern in which irrigation spread in the country from 1961 to 1976 (Table 1). The percentage of irrigated land in the Central region increased from 38 percent in 1961 to 83 percent in 1976. In the South, where rainfall is on the whole sufficient and timely for agricultural purposes, the irrigated areas increased from 7 to 25 percent during that period. The low, stable percentages of irrigated land in the Northeastern region (around 5 percent) stand out in marked contrast to those of the other regions.

Another indicator of regional imbalance is the distribution of income. Per capita gross regional product (GRP) in the Northeast was only just over 14 percent of the corresponding figure for Bangkok by 1983 (Table 2).

Northeastern Thailand also ranks lowest in health statistics (Table 3). In Bangkok one physician serves an average of 1,230 people, while in the Northeast the corresponding figure is 29,348. The figures in Table 3 refer to government-provided services only. If private facilities were included, the imbalance would be even more pronounced because of the high concentration of private services and medical personnel in Bangkok and its environs. In 1982, 46 private hospitals out of a total of 155 were situated in Bangkok, serving only an estimated one-tenth of the country's population. And out of the total of 7,296 private hospital beds, as many as 3,727 were in Bangkok alone (Chutikul 1983:table 15).

A study by Krongkaew (1979) of health services and food expenditure estimates that malnutrition is most prevalent in the Northeastern region. Krongkaew converted the estimated minimum nutritional requirement into a typical food basket and computed its cost. Actual expenditure below this

Table 1. Irrigated areas as a percentage of cultivated areas of all types, by region: Thailand, 1961-76

Region	1961	1963	1965	1969	1972	1974	1976
Central	38	67	77	76	82	84	83
West	32	36	35	33	46	60	66
East	42	44	44	41	43	45	49
South	7	9	10	10	14	15	25
North	8	7	9	12	16	17	19
Northeast	5	5	6	5	6	6	5
Whole country	17	21	23	21	25	27	26

Source: Royal Irrigation Department, Ministry of Agriculture and Cooperatives (1979).

Table 2. Gross regional product at constant 1972 prices: Thailand, 1978–83 (million baht)

Region	1978	1979	1980	1981	1982	1983
Bangkok	16,567	18,153	18,687	18,631	18,845	19,611
Central[a]	6,171	6,738	7,010	8,242	8,439	9,337
West	8,130	7,516	7,885	8,424	9,281	9,145
East	11,040	10,402	11,061	11,715	11,478	11,954
South	5,308	5,467	5,267	5,400	5,383	5,490
North	4,048	4,077	4,107	4,397	4,400	4,504
Northeast	2,366	2,511	2,671	2,652	2,735	2,792
Whole country	5,873	6,092	6,304	6,554	6,682	6,931

Source: NESDB (1985).

Note: In 1983 1 baht was equivalent to US$0.037.

a. Excluding Bangkok.

minimum cost by any household was then taken to indicate the presence of malnutrition. From this simple comparison he obtained an estimate of the proportion of the Thai population that suffered from nutritional inadequacy in 1975. He estimated the extent of malnutrition at 31 percent for the whole country and at 42 percent for the Northeastern region, again the highest percentage of any region (Table 4).

Malnutrition among preschool children is also highest in the Northeast, with 59 percent of those surveyed by the Ministry of Public Health

Table 3. Health service and facilities, by region: Thailand, 1982

Region	No. of persons per hospital bed	No. of persons per district hospital or health center[a]	No. of persons per physician	Total population
Bangkok	365	—	1,230	5,120,000
Central[b]	479	119,481	12,680	9,678,000
North	934	134,959	12,942	9,987,000
South	727	160,222	14,643	5,768,000
Northeast	1,427	173,677	29,348	16,673,000
Whole country	732	163,526	7,221	47,219,000

Sources: MOPH, Provincial Hospital Department (1982); MOPH, Health Planning Division (1982); MOPH, Health Statistics Division (1984); NESDB (1980); Chutikul (1983).

a. District hospitals and health centers are located outside Bangkok.

b. Excluding Bangkok.

Table 4. Minimum nutritionally adequate food expenditure per household, actual food expenditure, and the presumed extent of malnutrition, by region: Thailand, 1975 (in baht)

Region	Minimum recommended expenditure on food	Actual expenditure on food	% of deficiency or malnutrition
Bangkok	1,499	1,345 (5.7)	10
Central	1,259	1,032 (5.2)	18
North	1,240	854 (5.1)	29
South	1,245	901 (5.3)	28
Northeast	1,403	813 (5.9)	42
Whole country	1,335	924 (5.5)	31

Source: Krongkaew (1979:table II-8).

Notes: In 1975 1 baht was equivalent to US$0.05. Numbers in parentheses are average household size.

in 1980 found to be malnourished (Table 5). Even though severe cases of malnutrition are rare, more than half of the preschoolers in Thailand are inadequately fed.

Medical specialists in Thailand have long been concerned with the problem of malnutrition and have begun to estimate caloric requirements and to gather information on malnourished children (Khanjanasthiti and Wray 1975; Khanjanasthiti 1977; Valyasevi 1977; Chavalittamrong and Vathanakanon 1978; NaBangxang and Tawichasri 1978). The causes of mal-

Table 5. Percentage distribution of preschool children, by nutritional status: Thailand, 1980

	%, by degree of malnutrition				
Region	Normal	First (mild)	Second (moderate)	Third (severe)	Sample size
Central	59	31	9	2	65,334
North	46	37	14	3	61,016
South	53	34	11	2	59,483
Northeast	41	42	15	2	290,648
Whole country (excluding Bangkok)	45	39	14	2	473,481

Source: MOPH, Nutrition Division (1982).

Note: Percentages may not sum to 100 because of rounding.

nutrition have received less attention, however, and analyses of social and economic factors have yet to proceed beyond the description of data. The pervasiveness of malnutrition and the existence of regional imbalance reaffirm the importance of determining the causes and consequences of the problem and its possible remedies.

STUDY OBJECTIVES AND OVERVIEW OF THE FINDINGS

This study analyzes the causes of malnutrition in rural Thailand, focusing on protein-calorie malnutrition in children, and traces the link between health and nutrition in the family and the acquisition of human capital, recognizing the interdependencies between children's nutritional status and health, parental fertility behavior, child mortality, allocation of parental time, and subsequent learning ability. (For details of the family decision-making model, see Chutikul 1982.) Nutrition is treated as a particular dimension of child quality, which is both "consumed" and "produced" by the household. A household produces children and determines their quality by the inputs of time and purchased goods, subject to the "production technology" that it possesses. Within this economic framework, the study analyses the pattern of parental behavior that affects food consumption and the nutritional intake of their children in the face of constraints imposed by limited resources and their production technology. It also ascertains the effects of nutritional status on learning.

The picture that emerges from the study is of a vicious circle of low income, high fertility, low nutrient intake, poor nutritional status, and poor health, leading possibly to impaired mental development and to future low income. Low income encourages childbearing because parents are dependent on their children as productive assets. Farm families with low incomes are particularly prone to have a large number of children. High fertility, however, means high sibling competition for resources at an early age when adequate nutrient intake is essential for normal physical and mental development. The situation is aggravated if the mother works outside the home for the nutritional status of her children invariably deteriorates. High fertility has a secondary effect in that younger children in large families do not perform as well as other children in school. If these children are also malnourished, their physical and mental risk is even greater. By controlling for environmental factors, the current study offers some evidence to support the still-debatable contention that malnutrition has a direct, independent link to poor mental ability. It also supports the results of previous studies that have stressed the importance of nutritional knowledge in ensuring the proper feeding of young children. The effect of parental behavior on children's well-being tends to outweigh that of physiological characteristics represented by pregnancy wastage and close birth spacing.

In fact, the data presented here suggest that a health-induced state of malnourishment transmitted from mother to child can be overcome by proper nurture and care. The presence of the mother in the home (rather than away from the home in formal-sector employment) is the single most important factor that augments the nutritional status of her children.

SAMPLE AND MEASURES USED

The data for the study were obtained from a survey conducted in the province of Ubon Rachathani in Northeastern Thailand in 1979. The population sampled consisted of children less than 7 years old who were living with both their biological parents. If a child's mother had experienced more than one marriage, siblings from previous marriages were excluded from the analysis of effects on the child's well-being but included in the mother's pregnancy history.

Twelve villages were surveyed, selected on the basis of their perceived economic characteristics, so that the whole range of high- to low-income groups would be more or less equally represented. Since it was a purposive survey of families with young children that exhibited "sufficient" variation in their economic characteristics, the sample was not intended to be representative of the total population. The probability of selecting a household was not necessarily proportional to the population size of each village, since households without young children were automatically excluded. Each village contained about 300 to 500 households, and approximately 10 percent of all households in each village were included.

Because childbearing and childfeeding information was sought, detailed information on household characteristics was obtained from the mothers. The pretests in which both mother and father were separately interviewed revealed that mothers could answer all the factual questions about household assets, income earning activities, farm size, costs, and so on just as accurately as could the fathers. Husbands' and wives' preferences regarding family size were also very similar, with a simple correlation of 0.89.

The survey gathered information about the health and nutrition of individual children. If the children had older siblings between 7 and 13 years of age who were attending primary school, information on those children, notably on their nutritional status and school grades, was collected from their schools.[2]

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[2] About five years before the survey, four of the twelve villages selected had either been the site of, or had contact with, health programs for as long as eighteen months. The programs were directed mainly at treating anemia and bladder diseases. In the anemia program pregnant women were given iron compounds to supplement their diets. The bladder disease project was conducted in nearby (nonsample) villages and provided some contact with proper health and childcare. Thus villages were classified

Details of the questionnaire design are contained in Appendix B. In total, data were collected on 1,006 preschool children and 410 primary school children from 582 households.

Nutritional adequacy was assessed by means of input measure—that is, a measure of food consumed by members of the houshold—and an outcome measure using anthropometric methods.

Nutritional input, or consumption by household members, was measured by the nutrient content of their food and by food expenditure per adult equivalent, valued at prices prevailing at the time of survey. The average quantity of food consumed by the family over the year was determined. (See Appendix B for details.) The twenty-four-hour recall method was not used because it fails to allow for day-to-day variation or seasonal differences and therefore could lead to large biases (unless repeated over the year and supplemented by extensive monitoring). A more meaningful method of approximating consumption, and in what quantities, was to have respondents report how often they consumed specific foods, although this method also resulted in some inaccuracy.

Individual nutritional intake was estimated as an average based on the family's consumption because differences among family members are difficult to determine where mealtimes are irregular and food is taken from several common bowls. But to refine the measure, different weights were assigned to family members according to their age and sex, adult males being assigned the greatest weight and women and children counting only fractionally. The weights used were adapted from the Amsterdam scale used by Stone (1954) because they are based on nutritional requirements:[3]

Age group	Weights for males	Weights for females
Under 6	0.35	0.35
6–14	0.52	0.52
14–18	0.98	0.90
18–45	1.00	0.90
45+	0.90	0.90

---

by the extent of their "program contact": being a program site, having had some contact with health programs, and having had no contact at all. Villages with at least some program contact were expected to have healthier children than other villages. The study failed, however, to uncover any appreciable difference in the health status of children merely on the basis of where they lived, but breastfeeding practices appear to have been affected.

3. A weakness of the Amsterdam scale is that it is not sufficiently refined. For example, it takes no account of the nutritional needs of women during pregnancy or lactation, or the needs of the chronically ill. Nevertheless, the distortion is believed to be small because only a small number of people fall into these categories.

Intake per adult equivalent so obtained was then analyzed according to its nutrient content and imputed purchase value.

The nutrients identified for the analysis were protein, calories, calcium, vitamin A, vitamin B1, vitamin B2, niacin, and vitamin C. Standard conversion tables were used to determine the nutrient content of the foods consumed. The nutritive value of each food group consumed was ascertained, summed up, and calculated in terms of adult equivalents. The intake was then normalized using recommended Thai standards.

Nutritional output, or status, refers to the extent to which food is absorbed and utilized in the body. It can be ascertained by clinical, biochemical, and anthropometric methods. This study uses anthropometric measures—that is, measures of the body's size and proportion, which indicate bodily growth. Such growth is considered to be "the severest test of nutritional sufficiency" (Garn 1966). Anthropometric measures are usually used to assess the degree of protein–calorie malnutrition, and because they are measures of overall sufficiency, they are often considered the most relevant indicators for the proper design of corrective policies. They include measurement of weight, height, head circumference, and skinfolds. Anthropometric measurements are particularly pertinent when the subjects being studied are children, being a more sensitive indicator of nutritional status in children than in adults. The measures used are: (1) the child's weight as a percentage of the reference weight for children of that age and sex, (2) the child's height as a percentage of the reference height for children of that age and sex, and (3) the child's weight–height ratio as a percentage of the reference weight–height ratio for children of that age and sex.

Gomez et al. (1955) established a method of classifying anthropometric measurements whereby the nutritional status of children can be identified. Modifications of their criteria are used in this study, based on the recommendations of Thai pediatricians (Kasemsant 1977). The standards for classifying children on the basis of each measure are presented in the Exhibit.

Nutritionists believe that, particularly during childhood, nutritional factors outweigh genetic influences in determining growth, so that anthropometric scores are reliable indicators of nutritional sufficiency. Each measure reflects a different dimension of nutritional status, so that even though they are cross-sectional measures, they can be used to infer nutrition patterns over time (Seonane and Latham 1971). Acute short-term malnutrition is indicated by low weight for age and low weight for height but normal height for age. Since height is a better measure than weight for assessing protein–calorie malnutrition over an extended time period, normal height suggests recency of deficiencies. Past chronic malnutrition, in contrast, is indicated

Exhibit. Standards for anthropometric measurement of children's nutritional status

Weight for age	
Normal +	over 100% of the reference weight for age
Normal -	90–100% of the reference weight for age
First-degree malnutrition	75–89% of the reference weight for age
Second-degree malnutrition	60–74% of the reference weight for age
Third-degree malnutrition	below 60% of the reference weight for age
Height for age	
Normal +	over 100% of the reference height for age
Normal -	95–100% of the reference height for age
First-degree malnutrition	90–94% of the reference height for age
Second-degree malnutrition	85–89% of the reference height for age
Third-degree malnutrition	below 85% of the reference height for age
Weight for height	
Normal +	over 100% of the reference weight for height
Normal -	90–100% of the reference weight for height
First-degree malnutrition	75–89% of the reference weight for height
Second-degree malnutrition	60–74% of the reference weight for height
Third-degree malnutrition	below 60% of the reference weight for height

by low weight for age and low height for age but normal weight for height. Persisting malnutrition is indicated by low percentages on all three indexes.

MODEL AND HYPOTHESES

A child's nutritional status reflects the combined effects of many factors, including nutrient intake, health, physiological characteristics, and behavioral factors governed by parental preferences. In this study, I consider the family to be a cohesive unit in which parents make decisions that simultaneously affect their fertility, labor force participation, and children's health, nutritional status, and survival. According to the economic model I have chosen, four "household commodities"—child nutrition, child health, child deaths (a negative commodity), and births are "produced" in the home with family resources as inputs. The relationships in the production process are depicted in Figure 1.

The factors that determine a child's nutritional status are hypothesized to operate as follows. First, parental decisions determine the allocation of family resources such as food, medical care, and parental attention. In making such decisions, parents are constrained by their available resources. How

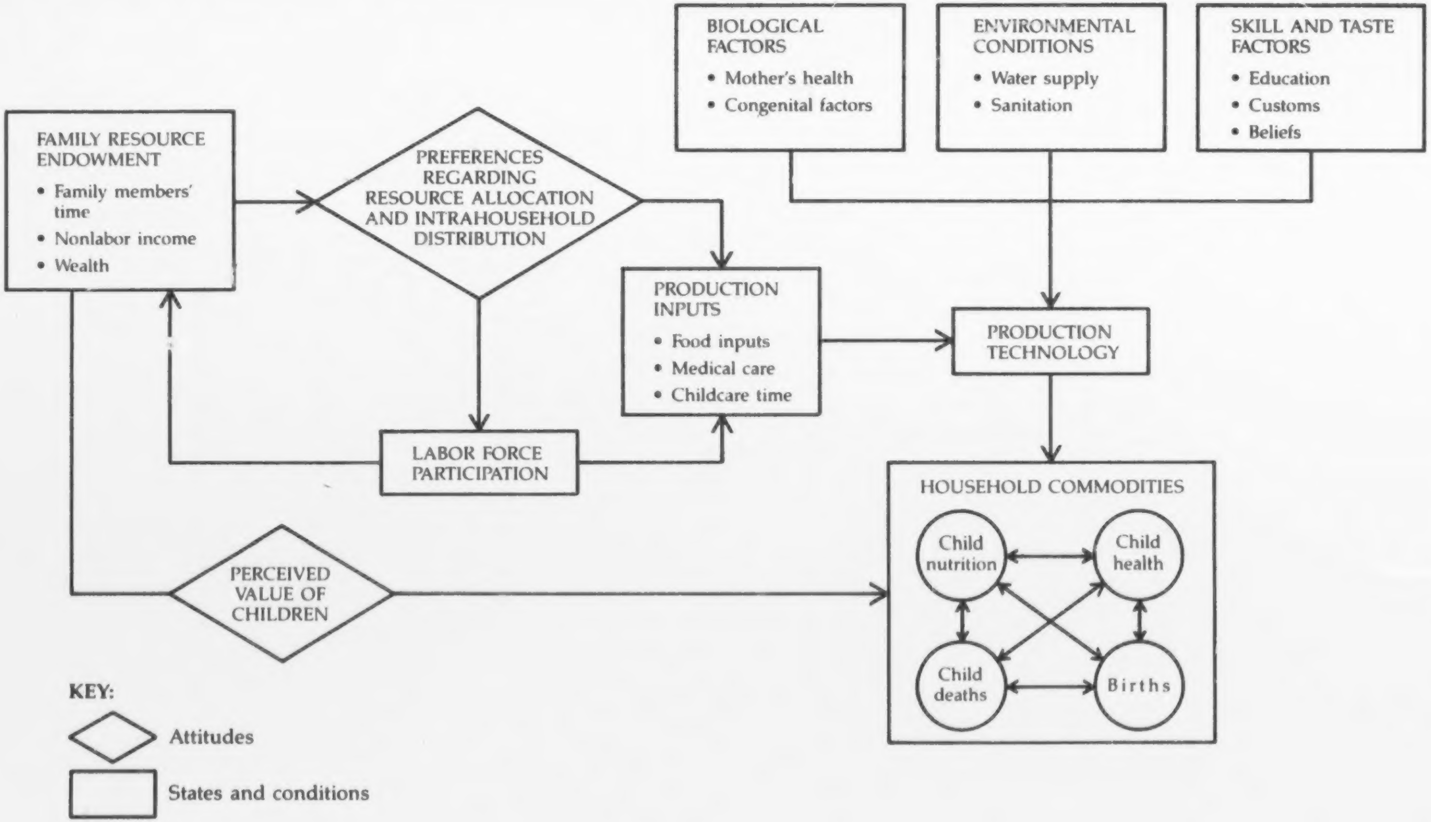
FAMILY RESOURCE ENDOWMENT
• Family members' time
• Nonlabor income
• Wealth
PREFERENCES REGARDING RESOURCE ALLOCATION AND INTRAHOUSEHOLD DISTRIBUTION
BIOLOGICAL FACTORS
• Mother's health
• Congenital factors
ENVIRONMENTAL CONDITIONS
• Water supply
• Sanitation
SKILL AND TASTE FACTORS
• Education
• Customs
• Beliefs
PRODUCTION INPUTS
• Food inputs
• Medical care
• Childcare time
PRODUCTION TECHNOLOGY
LABOR FORCE PARTICIPATION
HOUSEHOLD COMMODITIES
Child nutrition
Child health
Child deaths
Births
PERCEIVED VALUE OF CHILDREN
KEY:
Attitudes
States and conditions

Figure. Model of interrelationships in the production of children's nutritional status successful they are in using those resources in turn depends on their "home production technology"—their knowledge of childrearing and their overall skills. The effectiveness of that technology is affected by the child's general physical health, which may be the product of both environmental conditions (e.g., sanitation), and biological factors (e.g., the child's congenital condition), which may impede or assist in the production of nutritional adequacy.

In the model, births, deaths, health, and nutrition are closely intertwined, being simultaneously affected by parental decisions, regarding desired fertility and family resource allocation. Put in the form of an equation, the model hypothesizes that a child's nutritional status is determined as follows:

$$\text{Child's nutritional status} = f_1\,[\text{nutritional input, child's health, child's death, births, biological factors, child-care time, technology factors}]$$

Food consumption is an obvious input, necessary for physical growth. Utilization of nutrients, however, is affected by the child's health and other biological factors such as the mother's health at the time of childbirth.

Biological factors are represented in the model primarily by characteristics that may be transmitted from mother to child. For example, an infant's size is known to be affected by maternal age and parity (Love and Kinch 1965; Morley 1973), and birth size is highly correlated with subsequent nutritional status. Mothers below 20 and above 35 years of age at the time of childbirth are at greater risk than other women of bearing children of low nutritional status, and being a mother's fifth or later child carries greater nutritional risk than being born in a lower birth order. High pregnancy wastage—experiencing fetal deaths and neonatal deaths—indicates poor maternal health and consequently poor health among children who survive. Close spacing of births may also harm a child's nutritional status, since medical evidence abounds (Hughes 1923; Douglas and Blomfield 1958; Morley 1973) showing that an interval of less than six months between a birth and the next conception can have a negative effect on the next child's weight.

The hypothesis advanced here, however, is that these physiological effects do not extend beyond the second year of life unless they are reinforced by behavioral factors. In other words, physiological effects are believed to be strongest in early childhood, which is defined as the first two years of life, and behavioral factors are hypothesized to dominate thereafter.

Behavioral influences are those that determine the quantity and quality of food consumed (including breastfeeding time), medical care, and childcare time. The extent to which resources are devoted to each child depends on the time and other resources that the family has at its command. The resources actually allocated to each child are then influenced by parental knowledge and cultural practices or prejudices, by the degree of competition for those resources, and by the importance that parents attach to the individual child.

Thus parental behavioral influences are captured by several variables: whether the mother works in the informal sector (in activities that are compatible with childcare); her hours of work, if any, in the formal sector; the number of children under age 7 who compete for attention; and the number of children the parents regard as "in excess." Other child-specific variables include the length of the breastfeeding period, the child's sex, and the spacing between preceding and succeeding siblings, since close spacing is likely to lead to competition for parental attention and family resources. Wray (1971), for example, reports studies that show that successive children harm the nutritional status of preceding children.

The model further postulates that the mother's age (introduced as a continuous variable) can capture the effect of certain parental attitudes, such as fatalism or the perception that investments in children's "quality" (for example, education and nutrition) are likely to have a low rate of return.

The model postulates that the degree of competition for resources is also influenced by (current) child mortality in the family but the effect of mortality is ambiguous. On one hand, child loss may reflect congenital problems associated with maternal health. In such cases, the effect on nutritional status is expected to be negative. On the other hand, if child loss allows greater amounts of resources to be devoted to the survivors, then current mortality is expected to augment the nutritional status of the surviving children if the number of births is held constant so as to remove the "replacement motive" of an additional birth.

In recognition of the interrelatedness of the household commodities—child nutrition, child health, child death, and births—the following simultaneous equations were estimated, which allow for feedbacks and interactions:

(1) Child's nutritional status = f_1 [nutritional input, child's health, child's death, births, biological factors, childcare time, technology factors]

(2) Child's health status = f_2 [child's nutritional status, medical care, child's death, births, biological factors, childcare time, technology factors]

(3) Child deaths = f_3 [child's nutritional status, child's health, births, food intake, medical care, biological factors, childcare time, technology factors]

(4) Births = f_4 [nutritional status, child's health, child's death, total income, income by source, taste factors, biological factors]

The model is estimated at two levels: at the household level, where averages for nutritional status are used and health variables omitted because a suitable average measure is lacking for all the children in the household, and at the child level, where child-specific variables are used. In the household model, the determinants of nutritional status, child's death, and birth are estimated by two-stage least-squares regression because of the simultaneity postulated. In the child model, health status is added and is represented by a set of dichotomous variables, so that the probit maximum likelihood procedure is used to explore the determinants of health status and to obtain predicted values for health status, which are then used as instrumental variables in the second-stage regression for nutritional status. Similarly, death and birth are variables predicted from ordinary least-squares estimates to correct for the simultaneous-equation bias that would otherwise result.[4]

In the household model, *nutritional status* is represented by three variables that are averages for the household. The first is the average weight score of all the children in the household, each child's score being the weight of that child as a percentage of the reference weight for children of that age and sex. The mean score of the sample was 91.97 with a standard deviation of 9.85, reflecting the widespread prevalence of mild nutritional inadequacy. The second measure is the average height score of all the children in the household, each child's score being expressed as a percentage of the reference height for children of that age and sex. The mean score for this variable was 94.03 with a standard deviation of 4.56. The third measure is the average of the children's weight-for-height scores, each score expressed as a percentage of the reference weight for children of that height. This measure, which is a better indicator of nutrition than the other two measures, produced a mean value of 103.66, suggesting that severe chronic and persistent cases of malnutrition were infrequent in Ubon Rachathani Province.

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4. Results of the child death and child health regressions are not reported in this paper. Interested readers are referred to Chutikul (1982).

In the child model the same three anthropometric measures are used, but the scores are child-specific. The mean scores were 91.04, 93.54, and 99.39 for weight-for-age and sex, height-for-age and sex, and weight-for-height respectively.

The *health status* variable appears only in the child model. A child's health is proxied by three dummy variables. The first is assigned a value of 1 if the child had more than four continuous days of diarrhea during the month immediately preceding the survey. The mean of 0.032 indicates that only 3.2 percent of the sampled children suffered from this problem. The second dummy variable is valued at 1 if the child had more than four continuous days of fever during the month immediately preceding the survey. The mean score was 0.061, indicating that only 6.1 percent of the children surveyed were afflicted with this condition. The third dummy variable assumes a value of 1 if the child had ever suffered from a chronic disease such as diphtheria, typhoid, or tuberculosis. The sample mean for this variable was 0.198.

Child mortality is represented by the number of deaths among children under 7 years old as a proportion of the total number of births in the family within the past seven years. This proportion is used to control for the fact that families with more births would have more children exposed to the risk of mortality. The incidence of child mortality in the sample was low, as expected, the sample mean being 0.011 with a standard deviation of 0.026.

Fertility is measured by the number of live births per year of exposure to conception in the last seven years. This measure of current fertility is selected because I hypothesized that current fertility had an interacting effect on the nutritional status of children under age 7. The sample mean was 0.473 with a standard deviation of 0.233.

Summary statistics and description of these variables and the exogenous variables are presented in Appendix Table 1.

FINDINGS

The analysis revealed the existence of moderate degrees of nutritional inadequacy, typical of the overall nutritional situation in Thailand. Severe cases of malnutrition were rare, but moderate deficiencies were widespread, with specific problems in certain nutrients and among particular groups of people. This general scenario is replicated regardless of the nutrition measure used.

In terms of the nutrient content of household intake per adult equivalent, the normalized sample means in Table 6 show that deficiencies occur in all the nutrients, the severest being in vitamin A, vitamin B2, and vitamin C. The low means combined with the small standard deviations im-

Table 6. Recommended nutrient requirements and normalized nutrient content of household consumption per adult equivalent among sample households

Nutrient	Recommended daily allowance[a]	Sample mean	Normalized sample mean	S.D.
Protein (gm.)	38	33	0.86	0.462
Calories (kc.)	1,955	1,922	0.98	0.388
Calcium (mg.)	480	420	0.87	0.200
Vitamin A (std. unit)	1,989	455	0.23	0.307
Vitamin B1 (mg.)	0.79	0.51	0.65	0.201
Vitamin B2 (mg.)	1.08	0.40	0.37	0.215
Niacin (mg.)	14	10	0.71	0.105
Vitamin C (mg.)	27	12	0.44	0.188

a. Obtained from the Nutrition Planning Division, National Economic and Social Development Board, Bangkok, 1975.

ply that the majority of the households consumed much less than the required amounts of these nutrients. For protein and calories, however, the sample means indicate average consumption levels that were only slightly below recommended standards. Calorie consumption was 98 percent of recommended allowances, and protein consumption was 86 percent of the standard. Averages can be misleading, however. The high standard deviations (0.462 for protein and 0.388 for calories) mean that large variations existed in the consumption of these two vital nutrients, and many families were likely to be suffering from severe deficiences.

Nutritional intake can be measured also by the household's monetary expenditure on food or by the food's imputed purchase value. I obtained the value of total food consumed by multiplying the quantities of food consumed by the average market price for each food group in the province. The latest available recommended minimum food budget for the Northeastern region was 116 baht (US $5.80) per month per person in 1975 (Krongkaew 1979). Even with an exaggerated inflation rate of 10 percent per annum, the sample mean of 276.09 baht per month in 1979 still represents an improvement. But the large standard deviation of 83.65 baht reflects substantial disparities in the living conditions of the sample families. As expected, lower-income households had to devote a greater proportion of their expenditure to food (Table 7).

Examination of the outcome measure—nutritional status—reveals a roughly similar picture. The distribution of the sampled children by their nutritional status (Table 8) shows that the weight measures, which indicate current nutritional status, present a generally more optimistic picture than the height measures, which reflect long-term conditions. The weight-for-age criterion classifies 48 percent of the children as malnourished, though less than 1 percent are in the severe, third-degree category. Nevertheless, a large proportion, 61 percent, were found to be malnourished according to the height-for-age measure, though only 5 percent of them were in the third-degree group. These results were not surprising since the survey was undertaken immediately after the harvest period when current consumption levels are likely to be above average. But they suggest that patterns of consumption may be erratic from one season to another, whereas regularity of intake is important for growing children.

Table 7. Food expenditure as a percentage of total expenditure on current consumption, by income class and number of adult equivalents

Income class (baht equivalent)[a]	%, by number of adult equivalents				
	<3	3-3.9	4-4.9	5-5.9	≥6
<5,000	78.1	76.6	79.3	83.1	84.8
5,000-9,999	74.3	74.8	77.9	81.7	82.1
10,000-14,999	72.5	72.8	74.0	79.1	80.9
15,000-19,999	70.5	72.2	75.2	77.4	79.1
≥20,000	67.7	69.0	71.3	72.4	74.5
No. of households in sample	105	122	137	99	119

a. Includes all income in cash and kind.

Table 8. Sampled children, by nutritional status and standard measure

	Weight for age		Height for age		Weight for height	
Nutritional status	No. of children	%	No. of children	%	No. of children	%
Normal +	321	23	173	12	413	29
Normal -	421	30	383	27	600	42
First degree	568	40	516	36	354	25
Second degree	98	7	278	20	44	3
Third degree	8	*	66	5	5	*
Total	1,416	100	1,416	100	1,416	99

Note: Percentages may not sum to 100 because of rounding.

* Less than 1 percent.

Causes of child malnutrition

Child malnutrition can be ascribed to five main factors: poverty, mother's choice about labor force participation, sibling competition, some physiological factors, and ignorance. In my sample, behavioral factors generally tended to outweigh physiological effects, particularly among older children. The effects of poverty, ignorance, and physiological factors can perhaps be expected, but the detrimental effects of a mother's work choice warrant attention.

Poverty and child malnutrition

Low income—poverty—was found to limit the nutritional intake of the sampled families. As expected, poor families consumed less of all kinds of food and consumed nutritious foods (particularly high-protein foods such as meat) less frequently than better-off families, and their children were consequently less well nourished. The income elasticity of food consumption is low; that is, as income rises, food consumption also increases but does so at a lower percentage rate. Hence very substantial increases in income are needed to bring about improved nutrition.

Regression estimates of the determinants of nutritional status (Table 9) show that families that spent more income on food per adult equivalent were better able to feed their young than were other families. Children in those families were better off nutritionally; both average weight for age and average weight for height were increased by the higher expenditure on food. Children's average height for age, however, was not significantly affected. These findings are plausible because the weight measures are more likely than the height measure to reflect current intake, and current expenditure on food is a measure of current intake.

Families with high food expenditures were those with high income and large landholdings. Regression analysis of food expenditure and the normalized intake of protein on household characteristics (Table 10) shows that families with large planted areas of land spent significantly more money on food and consumed more protein than other families. (Protein was chosen as the representative nutrient because protein-calorie malnutrition is the main concern of the study and the simple correlation between protein and calorie consumption was very high—0.94.) Households with higher farm income also spent more on food. It is noteworthy that the same socioeconomic characteristics—higher income or wealth and nonfarm occupation—tended to have similar augmenting effects on food expenditure and protein consumption. But in spite of income's importance in determining the amount of food consumed, the elasticity of food expenditure with respect to income is less than one would expect. The elasticity of food expenditure with respect to farm income, evaluated at sample means, was

Table 9. Household model: two-stage least squares regression estimates of nutritional status equations

Right-hand variables	Weight score		Height score		Weight-for-height score	
Child mortality	2.01380	(.3682)	4.78900	(1.65890)	-6.41230	(-.8976)
Current births	-.34875	(-.2984)	2.35700	(1.99030)	-6.54610	(-2.3544)
Months of breastfeeding	.00040	(.0099)	-.09832	(-1.93340)	.09335	(1.9433)
Hours of work	-2.95780	(-3.7875)	-1.53420	(-3.45380)	-.33112	(-.2234)
Work in informal sector	12.26700	(14.1780)	3.42310	(10.25900)	3.32250	(2.9236)
Food expenditure per adult equivalent	.01780	(2.6873)	.00084	(.00288)	.02756	(3.7811)
Mother's age	-.05785	(-.6667)	-.11294	(-2.33980)	1.31220	(10.7490)
Excess number of children	.09234	(.3622)	-.29770	(-1.23930)	1.05030	(2.3794)
Age <20 at first childbirth	-.13779	(-.1579)	-1.21890	(-2.54780)	7.22310	(5.2398)
Age >35 at first childbirth	-.27885	(-.1711)	-.18240	(-.32217)	-13.03480	(-1.3281)
Priority given to feeding children	2.03470	(.4999)	.44255	(.17380)	1.35690	(.1993)
Constant	83.23400	(19.7220)	89.39400	(38.65800)	57.32300	(10.4345)
No. of observations						582

Note: Figures in parentheses are asymptotic ratios; therefore no significance levels are given.

Table 10. Household model: ordinary least squares regression estimates of food expenditure and normalized protein intake per adult equivalent

Dependent variable	Food expenditure			Protein intake		
	Coefficient	Asymptotic *t*-ratios	Elasticity at means	Coefficient	Asymptotic *t*-ratios	Elasticity at means
Mother's age (MAGE)	2.89511	(1.8574)	.32035	.02008	(1.0322)	.71340
Value of farm production (FPRODV)	.00437	(3.7589)*	.17511	.00007	(2.0239)*	1.02230
Nonfarm income (NFY)	.00051	(.8763)	.01215	.00004	(.7960)	.32500
Predicted mother's wage (PRMWAGE)	-1.50633	(-2.6540)*	-.32512	.00419	(1.1031)	.29050
Ignorance variable (KM1)	-1.85254	(1.3038)	-.05990	-8.66980	(1.8038)	-1.12910
Ignorance variable (KM2)	-5.24654	(-1.7654)	-.00629	-.26605	(-1.0392)	-.10240
Wealth index 1	4.30376	(1.2311)	.00053	1.16370	(1.1502)	.04601
Wealth index 2	-12.83810	(1.5987)	-.00093	1.39970	(2.5022)*	.03255
Wealth index 5	28.16120	(3.4420)*	.00051	1.45170	(.9428)	.00844
Planted area (PLAREA)	.19769	(4.3223)*	.05112	.00570	(2.3209)*	.46981
Farm occupation (OCCUF)	-70.80580	(-7.1865)*	-.18542	-.38759	(-2.0211)*	-.32585
Father's education (EDFA)	2.24053	(1.0047)	.03522	.31389	(1.2337)	.08410
Constant	263.92110	(15.1980)		-1.38270	(-1.9180)	
No. of observations	582			582		
R^2	.20			.19		
F-statistic	11.70*			10.14*		

* Significant at the 5 percent level.

0.18, consistent with findings from other studies in Thailand (for example, Konjing 1981). But the elasticity has to be interpreted in relation to labor's share of income, since planted area can be considered a proxy for other factors of production.

The effect of nonfarm income may be confounded with the effect of wealth (Table 10). Nonfarm income seems to have had no discernible effect on food expenditure, but possession of small consumer items (wealth index 5) appears to have augmented food consumption somewhat. (Details on the construction of the wealth indexes are presented in Appendix Table 2.) On the other hand, this finding may suggest that income from nonagricultural sources tended to be used for purposes other than food.

Farm families also tended to be less well off than others in their food consumption. This observation, in conjunction with the result that farm production value increased nutritional intake, suggests that the income effect tended to outweigh the adverse effect of having farming as an occupation. In other words, farm families tended to consume less food than families in other occupations, but among the farm families those whose farm production was large enough consumed more food than others. It appears then that the poorer farmers with small landholdings and low output were the worst off.

Mother's work and child nutrition

A major finding of this study is that maternal labor force participation had an important effect on child nutrition. In developing countries it is common for women to work in so-called informal-sector occupations that are compatible with childcare. About 48 percent of the women in the present sample worked solely in such jobs as raising silkworms, weaving and spinning, making mats and baskets, and running small grocery stores in the home; and they were found to take better care of their children nutritionally than women who were employed in formal jobs, which included farm labor and work in small retail and service stores (such as hairdressers). Thus a mother's choice of work activity was found to have important consequences for her children.

Jaffe and Azumi (1960) and Hass (1972) found that women working in informal-sector jobs had higher fertility than women working in the formal sector. In order to achieve a reduction in fertility they recommended that formal-sector jobs be created to draw women away from the home. Although the present study provides mild support (equations not shown) for the hypothesis that formal-sector work induces a fertility decline, the findings indicate more importantly that a mother's switch from an informal-sector to a formal-sector job is detrimental to her children's "quality," measured by nutritional status. As Table 9 shows, informal-sector work that involved mothers in activities that did not conflict with childcare increased significantly all three measures of nutritional status. If a mother worked in the home, the average nutritional status of her children was up to 12 percentage points higher than if she worked away from home.

Moreover, the longer her hours of work in the formal labor market, the lower were the average weight-for-age and the average height-for-age of her children. The magnitude of the effect was considerable. A coefficient of -1.534 for hours of work in the height score regression (Table 9) indicates that, other things being equal, a mother who spent thirty hours a week in a formal-sector job had children whose average height score was 46 percentage points lower than that of children whose mothers did not work in the formal sector. Of course, the effect may be exaggerated since nonlinearities are not taken into account here. It is possible that the effect may diminish as the number of hours in the formal sector increases.

Two possible explanations for the adverse effect of formal-sector work on child nutrition are that not enough of the income from formal-sector work was spent on inputs that would augment children's nutrition, or that purchased inputs were not good substitutes for the mother's time spent in producing good nutrition. Whatever the correct explanation may be, it has important policy implications in view of the seriousness of childhood malnourishment on later physical and mental development. Where policies exist to raise or reduce fertility by encouraging women to work in the formal sector, policymakers must be cognizant of the adverse effect of such work on children's nutritional status so that proper preventive measures can be incorporated into the policies.

When the individual child was the unit of analysis, the effect of informal-sector work on child nutrition was confirmed. Child nutrition was enhanced substantially when the mother worked in the home (Tables 11 to 16). The effect was more pronounced for very young children, whose nutritional status score improved up to about 20 percentage points, depending on the measure used. This is a reasonable finding, since very young children are more likely than older children to be in need of their mother's care, being less able to fend for themselves and defend their share of food intake.

Sibling competition and malnutrition

The analysis revealed that high fertility was not conducive to good nutrition. Other things being equal, larger families had more malnourished children than smaller families. Families with many young children were more likely to have children with low weight-for-height scores (Table 10). This finding suggests competition for resources among the young children. Sibling competition was even more apparent when the individual child was

Table 11. Child-specific regression: final-stage results for children of ages 0 to 3, with weight for age as the dependent variable

	Coefficient, by age			
Independent variable	0	1	2	3
Predicted incidence of diarrhea	4.24160 (1.24280)	5.3919 (.6952)	**	6.60980 (1.60640)
Predicted incidence of fever	-30.37600 (-5.79640)	-26.7970 (-4.9736)	-42.69800 (-8.07300)	-12.71400 (-3.78300)
Predicted incidence of disease	-14.59000 (-2.14860)	13.7260 (1.3266)	-3.43200 (-.48270)	-18.42800 (-4.67400)
Predicted incidence of mortality	-34.19200 (-2.64830)	-30.1960 (-5.2763)	10.54500 (2.10910)	15.34900 (2.18200)
Predicted incidence of fertility	-8.38120 (-.57380)	-67.8280 (-6.9450)	6.12220 (.34024)	-90.00700 (-5.21100)
Proportion of life breastfed	-.01862 (-.39820)	1.5425 (1.1734)	-1.02210 (-.44010)	-7.12350 (-4.08800)
Hours of work	.00180 (.00860)	-.1203 (-.8783)	.43486 (1.62900)	-.11999 (-1.05800)
Work in informal sector	17.50200 (3.88400)	6.8612 (2.0791)	19.21300 (3.20700)	2.64420 (.87750)
Food expenditures	-.00021 (-.01410)	.0205 (2.0028)	.01332 (1.45980)	.01302 (1.83880)
Mother's age	.02264 (.06410)	-.2924 (-1.1973)	-.36697 (-1.37100)	-.81221 (-3.21600)
Excess number of children	-.61682 (-1.06610)	-.2967 (-.6363)	.09057 (.12477)	.91258 (1.46990)
Mother's age <20 at childbirth	2.43570 (.81210)	13.2340 (5.5435)	-.62714 (-.19140)	-3.39380 (-1.66700)
Mother's age >35 at childbirth	5.76710 (1.07930)	5.0105 (1.4033)	2.12120 (.71122)	.42060 (.17868)
Space before birth	-.25548 (-.91670)	.0648 (.9422)	-.01272 (-.12150)	.13205 (2.81330)
Space after birth	.04715 (1.13810)	-.0848 (-3.0606)	.02979 (.40648)	-.06937 (-2.16300)
Pregnancy order	.30880 (.64760)	1.2613 (2.6600)	-.58809 (-1.83050)	2.87410 (3.82730)
Female child	-1.29630 (-.82010)	-1.2065 (-.9345)	-.08432 (-1.02300)	.33490 (1.21230)

Table 11. (*continued*)

Independent variable	Coefficient, by age 0	1	2	3
Constant	98.75900 (4.62670)	123.4300 (10.4780)	87.64100 (6.28200)	156.94000 (10.43400)
N	151	167	145	144

Note: In this and subsequent regression tables, figures in parentheses are asymptotic *t*-ratios.

** The first-stage probit regression does not converge. Consequently, the variable representing predicted incidence of diarrhea, which appears in the other equations, is dropped from subsequent analyses for this age group.

Table 12. Child-specific regression: final-stage results for children of ages 4 to 6 and 0–6 combined, with weight for age as the dependent variable

Independent variable	Coefficient, by age 4	5	6	0–6
Predicted incidence of diarrhea	8.28620 (1.85410)	-4.09800 (-1.28600)	8.33470 (1.72550)	5.78400 (1.45910)
Predicted incidence of fever	-14.68300 (-4.47400)	**	-17.21400 (-6.16700)	-10.40800 (-2.67600)
Predicted incidence of disease	.86825 (.16310)	-.78706 (-.12720)	2.77040 (.55720)	-6.57960 (-1.13700)
Predicted incidence of mortality	48.24800 (5.63900)	70.57100 (6.21880)	22.66000 (2.09170)	-23.30300 (-2.23900)
Predicted incidence of fertility	-77.15100 (-5.75200)	97.19300 (6.29230)	-40.97900 (-1.91700)	-51.53800 (-2.23100)
Proportion of life breastfed	-3.55130 (-2.15200)	-6.51270 (-3.57400)	1.34760 (.50720)	.70211 (4.07980)
Mother's hours of housework	-.40361 (-3.06900)	.16461 (1.57650)	-.41250 (-2.18500)	-.07284 (-1.15900)
Mother's work in informal sector	13.66100 (4.14640)	21.57300 (6.60970)	2.55740 (.52050)	13.50500 (8.31970)
Food expenditures	.03789 (5.69990)	.03934 (5.46490)	.02198 (1.81560)	.01332 (1.69110)
Mother's age	.55753 (2.70870)	1.11620 (4.54360)	.27639 (1.32370)	-.40885 (-1.79900)

Table 12. (*continued*)

Independent variable	Coefficient, by age 4	5	6	0–6
Excess number of children	2.63560 (4.18000)	−.05250 (−.11080)	2.18950 (1.29330)	.53302 (1.58770)
Mother's age < 20 at childbirth	9.47330 (4.19850)	−4.52270 (−2.10810)	2.08140 (.63470)	3.93050 (1.85240)
Mother's age > 35 at childbirth	−8.65080 (−3.18200)	−11.02200 (−4.02230)	−9.22530 (−1.78900)	2.96170 (1.86100)
Space before birth	.11674 (1.60840)	−.07352 (−1.80630)	.00928 (.15560)	.04087 (1.18580)
Space after birth	.14258 (4.34570)	.12400 (4.18240)	−.01368 (−.34600)	−.00594 (−.45640)
Pregnancy order	3.23830 (4.62810)	−3.67840 (−5.63870)	.05804 (.09971)	1.03640 (1.92330)
Female child	1.23800 (.98340)	1.38730 (1.20380)	.98504 (1.02930)	−.01494 (.02973)
Constant	99.79300 (13.36200)	5.99890 (.45250)	101.41000 (7.05900)	122.18000 (5.92890)
N	144	146	109	1,006

** See note in Table 11.

Table 13. Child-specific regression: final-stage results for children of ages 0 to 3, with height for age as the dependent variable

Independent variable	Coefficient, by age 0	1	2	3
Predicted incidence of diarrhea	−.74370 (−.44790)	5.39190 (.69520)	**	−.02194 (−.00640)
Predicted incidence of fever	−6.37670 (−2.50090)	−26.79700 (−4.97300)	−14.55200 (−3.71500)	−3.15130 (−1.11800)
Predicted incidence of disease	2.29100 (.69340)	13.72600 (1.32660)	−7.94780 (−1.50900)	−3.79230 (−1.14700)
Predicted incidence of mortality	−1.52010 (−.24190)	−30.19600 (−5.27600)	7.88310 (2.12900)	2.34140 (.39690)
Predicted incidence of fertility	24.67100 (3.47130)	−67.82800 (−6.94500)	9.42600 (.70730)	−27.12400 (−1.87200)

Table 13. *(continued)*

	Coefficient, by age			
Independent variable	0	1	2	3
Proportion of	.01454	1.54250	-.17795	-1.71620
life breastfed	(.13810)	(1.17340)	(-.10350)	(-1.81100)
Mother's hours	.08357	-.12026	.20694	-.08019
of housework	(.00860)	(-.87830)	(1.04670)	(-.84370)
Mother's work in	8.92520	6.86120	12.76400	1.79410
informal sector	(4.07100)	(2.07910)	(2.88780)	(.70990)
Food	.01905	.02045	.00389	-.00078
expenditures	(2.58680)	(2.00280)	(.57873)	(-.13170)
Mother's age	.32924	-.29235	-.38135	-.33502
	(1.91700)	(-1.19700)	(-1.92400)	(-1.58200)
Excess number	-.38481	-.29670	-.09105	.26598
of children	(-1.36700)	(-.63630)	(-.16870)	(.51080)
Mother's age < 20	-2.92810	-.45234	-2.85680	-1.58090
at childbirth	(-2.00640)	(-.27150)	(-1.17300)	(-.92570)
Mother's age > 35	-1.66760	-4.11920	.95040	.80317
at childbirth	(-.64140)	(-1.65300)	(.42860)	(.40680)
Space before	.06829	.05358	.03729	.04067
birth	(.50360)	(1.11530)	(.48068)	(1.03310)
Space after	-.02059	-.00409	.05800	-.02835
birth	(-1.02140)	(-.21570)	(1.06430)	(-1.05400)
Pregnancy	.40363	.10753	.04604	.80832
order	(1.73960)	(.32495)	(.19273)	(1.28340)
Female child	-.93840	-1.39480	-1.37480	.95782
	(-1.57380)	(-1.83740)	(-.95670)	(.92830)
Constant	63.37000	91.00800	92.88200	114.05000
	(6.10160)	(11.07100)	(8.98930)	(9.04000)
N	151	167	145	144

** See note in Table 11.

Table 14. Child-specific regression: final-stage results for children of ages 4 to 6 and 0–6 combined, with height for age as the dependent variable

	Coefficient, by age			
Independent variable	4	5	6	0–6
Predicted incidence of diarrhea	.42954 (.15040)	-4.74390 (-2.31530)	-2.47140 (-.79880)	-2.79970 (-.92410)
Predicted incidence of fever	-4.11410 (-1.96200)	**	-3.03450 (-1.69730)	-3.16190 (-1.53700)
Predicted incidence of disease	1.38550 (.40720)	.44050 (.11120)	1.70500 (.53540)	-8.18670 (-2.34900)
Predicted incidence of mortality	-9.25330 (-1.69300)	17.37900 (2.39160)	12.04700 (1.73630)	-12.68800 (-2.02300)
Predicted incidence of fertility	-15.34800 (-1.79400)	15.57400 (1.57450)	-18.82500 (-1.37500)	-37.46000 (-2.69200)
Proportion of life breastfed	-1.08040 (-1.02400)	-2.23610 (-1.91700)	-2.46350 (-1.44800)	.34855 (3.36180)
Mother's hours of housework	-.17678 (-2.10400)	.02087 (.30340)	-.26684 (-2.20600)	-.09746 (-2.57600)
Mother's work in informal sector	2.84260 (1.35030)	7.26000 (3.47370)	-.45308 (-.14390)	5.35720 (5.47800)
Food expenditures	.00596 (1.40210)	.00602 (1.30620)	-.00860 (-1.10900)	-.00858 (-1.81000)
Mother's age	.24381 (1.85380)	.15420 (.98020)	.21174 (1.58320)	-.45252 (-3.30500)
Excess number of children	.04404 (.10930)	.29190 (.96210)	1.11580 (1.02900)	.17942 (.88710)
Mother's age <20 at childbirth	2.51290 (1.74300)	-.48747 (-.35480)	3.19470 (1.52100)	1.53200 (1.19850)
Mother's age >35 at childbirth	-3.78140 (-2.17800)	-2.48420 (-1.41600)	-4.04320 (-1.22400)	2.47840 (2.58490)
Space before birth	-.01462 (-.31530)	-.02329 (-.89390)	.06534 (1.70900)	.06234 (3.00190)
Space after birth	-.00566 (-.26980)	.02583 (1.36030)	.02532 (1.00020)	.01571 (2.00220)
Pregnancy order	.88350 (1.97610)	-.55948 (-1.33900)	-.03892 (-.10440)	1.03660 (3.19330)

Table 14. *(continued)*

Independent variable	Coefficient, by age			
	4	5	6	0–6
Female child	−1.87640 (−.90010)	−.98675 (−.87780)	−.65212 (−1.09900)	.34217 (1.09190)
Constant	90.89700 (19.04900)	80.54200 (9.48700)	103.49000 (11.24700)	126.67000 (10.20300)
N	144	146	109	1,006

** See note in Table 11.

Table 15. Child-specific regression: final-stage results for children of ages 0 to 3, with weight for height as the dependent variable

Independent variable	Coefficient, by age			
	0	1	2	3
Predicted incidence of diarrhea	1.72970 (.91660)	3.60950 (.40890)	**	6.40620 (1.15930)
Predicted incidence of fever	−8.23900 (−2.84330)	−17.14300 (−2.79540)	−29.31200 (−4.67800)	−14.46300 (−3.20400)
Predicted incidence of disease	−1.43640 (−.38260)	.14321 (.01220)	−2.13610 (−.25350)	−14.79500 (−2.79400)
Predicted incidence of mortality	−8.23100 (−1.15290)	−14.34100 (−2.20160)	6.80450 (1.14440)	−16.79800 (−1.77800)
Predicted incidence of fertility	−14.24100 (−1.77560)	−32.08600 (−2.88640)	7.22850 (.33779)	−56.76900 (−2.44700)
Proportion of life breastfed	−.48257 (−4.03150)	−1.48040 (−.98940)	−.79435 (−.25500)	−2.97830 (−1.27200)
Mother's hours of housework	.13319 (−1.16210)	−.01060 (−.06780)	.39872 (1.25590)	−.00781 (−.65560)
Mother's work in informal sector	−.68384 (−.27450)	1.69270 (.45060)	13.57700 (1.91300)	1.47310 (.36399)
Food expenditures	−.00318 (−.37980)	.02415 (2.07810)	.01527 (1.41270)	.02522 (2.65140)
Mother's age	.02989 (.15320)	−.02505 (−.09012)	−.03889 (−.12220)	−.52863 (−1.55900)
Excess number of children	−.10414 (−.32550)	.60649 (1.14260)	−.67892 (−.78640)	.76046 (.91199)

Table 15. *(continued)*

Independent variable	Coefficient, by age			
	0	1	2	3
Mother's age < 20 at childbirth	2.35890 (1.42230)	11.66400 (4.29250)	.75614 (.19407)	-3.82830 (-1.39900)
Mother's age > 35 at childbirth	-.91420 (-.30940)	1.55380 (.38232)	-1.34220 (-.37840)	2.35680 (.74550)
Space before birth	-.11873 (-.77080)	-.02894 (-.36940)	-.04486 (-.36140)	.00984 (.15610)
Space after birth	.02565 (1.11970)	-.05065 (-1.60670)	.04729 (.54247)	-.06357 (-1.47600)
Pregnancy order	-.03981 (-.15100)	.42183 (.78158)	-.44045 (-1.15300)	1.85010 (1.83430)
Female child	-1.60480 (-1.85500)	-1.37800 (-.98370)	-.39840 (-1.29700)	.98347 (1.08230)
Constant	98.15800 (8.31640)	102.89000 (7.67360)	84.46300 (5.11050)	143.88000 (7.12230)
N	151	167	145	144

** See note in Table 11.

Table 16. Child-specific regression: final-stage results for children of ages 4 to 6 and 0–6 combined, with weight for height as the dependent variable

Independent variable	Coefficient, by age			
	4	5	6	0–6
Predicted incidence of diarrhea	9.85420 (1.61280)	.11024 (.02860)	15.52300 (2.33870)	7.15250 (1.08910)
Predicted incidence of fever	-14.14800 (-3.15300)	**	-18.78300 (-4.89700)	-7.57760 (-2.01100)
Predicted incidence of disease	-.13655 (-.01870)	1.44720 (.19330)	2.04760 (.29970)	19.21300 (2.52630)
Predicted incidence of mortality	-29.87600 (-2.55400)	69.53300 (5.06280)	2.91050 (.19550)	19.00000 (1.38840)
Predicted incidence of fertility	-41.62100 (-2.27300)	104.52000 (5.59120)	2.36050 (.08040)	34.79700 (1.14570)
Proportion of life breastfed	-2.35740 (-1.04500)	-4.93040 (-2.23600)	6.18890 (1.69520)	-1.70300 (-7.52500)

Table 16. (*continued*)

Independent variable	Coefficient, by age			
	4	5	6	0–6
Mother's hours of housework	−.30250 (−1.68200)	.20823 (1.64780)	−.17290 (−.66640)	−.03333 (−.40360)
Mother's work in informal sector	7.16050 (1.58970)	18.20200 (4.60800)	3.19270 (.47290)	3.28670 (1.53980)
Food expenditures	.03677 (4.04510)	.04813 (5.52430)	.04969 (2.98730)	.05743 (5.54580)
Mother's age	.60987 (2.16720)	1.43960 (4.84190)	.07623 (.26570)	1.45090 (4.85600)
Excess number of children	1.51880 (1.76190)	−.31715 (−.55310)	−.87068 (−.37430)	.25958 (.58800)
Mother's age < 20 at childbirth	7.31580 (2.37150)	−2.34220 (−.90200)	−4.57940 (−1.01600)	4.34040 (1.55560)
Mother's age > 35 at childbirth	−4.80380 (−1.29200)	−13.15600 (−3.96700)	1.04390 (.14730)	−11.29400 (−5.39700)
Space before birth	−.00201 (−.02020)	−.06876 (−1.39600)	−.12535 (−1.52900)	.01321 (.29150)
Space after birth	.09304 (2.07420)	.10695 (2.98050)	−.04884 (−.89920)	−.06750 (−3.94200)
Pregnancy order	1.21900 (1.27420)	4.01190 (5.08140)	−.21533 (−.26920)	−1.53300 (−2.16400)
Female child	.40389 (1.03840)	.48759 (.49380)	1.26340 (1.04890)	−2.58710 (−3.78200)
Constant	103.54000 (10.14100)	7.61320 (.47440)	97.92700 (4.96110)	26.37100 (.97320)
N	144	146	109	1,006

** See note in Table 11.

the unit of analysis. The fourth rows of Tables 11 to 16 show how the incidence of death in the household affected surviving children's nutritional status. (Child mortality was defined as the predicted number of deaths to 6-year-olds and under, as a proportion of total births during the last seven years.) An interesting pattern emerges. For children less than 2 years old, the effect of child mortality on nutritional status (when significant asymptotically) was invariably negative. For children of older ages, the effect was reversed and the coefficients were almost always positive. The only exception was the effect of mortality on weight-for-height scores, shown in Table 16. Both physiological and behavioral mechanisms may have been at work here. Weak, malnourished mothers are more likely than healthy mothers to produce babies who do not survive. High mortality in the home may thus reflect congenital health problems that impair a child's nutritional status in early infancy, the period in which physiological effects are likely to dominate. Hence, the effect of child mortality was negative in the first two years. For surviving children beyond age 2, however, high child mortality may allow them to receive more attention and thus to have better nutritional status as a result of diminished sibling competition. Of course, no parent is assumed to cause a child's death intentionally (although in some societies selective neglect is common and condoned), but in the face of limited resources, child neglect may occur. Thus a child's nutritional status varies inversely with the number of siblings present in the home.

The results of the fertility equation show that farm families with large land holdings (planted area) had higher fertility than other families. The fitted two-stage least-squares equation used for fertility was:

$$\begin{aligned}\text{BRTH} = {} & -1.398 - .006\ \text{weight} + .022\ \text{height} + .004\ \text{weight for height}\\ & + .006\ \text{predicted mother's wage} - .202\ \text{incidence of death}\\ & - .025\ \text{mother's age} - .00005\ \text{farm production value}^{*}\\ & - .000\ \text{nonfarm income} + .001\ \text{planted area}^{*}\\ & + .013\ \text{childcare alternative} + .213\ \text{farm occupation}^{*}\\ & + .007\ \text{father's education} - .055\ \text{program status}\end{aligned}$$

where * denotes significance at the 5 percent level only in the asymptotic sense.

The value of farm production tended to reduce recent fertility. This negative relationship is common where the economic value of children is perceived to be high (Rosenzweig 1977). If children assist their parents in production, then children can be viewed as income-generating assets that take the place of income from other sources. Thus parents with high earnings may be expected to depend less on their children as income-earners than do parents with low earnings. Where the economic value of children is high and children are viewed as productive agents who augment family income, a negative relationship between income and fertility is likely to exist. For poor families, children tend to be investment goods as well as consumption goods, providing not only child labor but also the potential for old-age support. In societies where institutionalized forms of old-age security do not exist, children are often the sole supporters of their parents in old age.

Physiological factors and malnutrition

The role of physiological factors in determining the nutritional status of children in the sampled families is uncertain. Neither close birth intervals nor high pregnancy wastage seem to have affected the nutritional status of succeeding children. Nor did the mother's age at childbirth or the pregnancy order have a systematic effect. Mothers who had closely spaced pregnancies did not, as a group, appear to have more malnourished children than other mothers, and mothers with a record of high child loss tended to have children of weak nutritional status only in the children's first two years of life. These findings suggest that proper care and nurture can rehabilitate children who have been previously malnourished.

According to my hypothesis, the longer the interval of recuperation between births, the healthier the mother would be and the higher would be the nutritional status of her children, particularly in early infancy. The results here were mixed (Tables 11 to 16). The longer the interval before a particular birth ("space before birth"), the higher was the expected score on nutritional status. Spacing after a particular birth was a proxy for the extent of sibling competition for family resources, and its coefficient was also expected to be positive. No systematic pattern emerged, however.

A pregnancy order of greater than four was included to reflect the mother's physical condition, because it takes into account the total number of pregnancies previously experienced by the mother and not just those terminating in a live birth. An anomalous result was again obtained. Children whose pregnancy order was greater than four appeared to be better off nutritionally than other children. (Birth order was dropped from the analysis because of poor results.)

Where physiological effects appear to have been of some importance, the effect was ambiguous. For example, medical literature indicates that mothers giving birth at ages less than 20 or greater than 35 are more likely than women in the prime childbearing ages to produce children of low birth weight, and I hypothesized that this disadvantage would be reflected in the nutritional status scores at least for children in the first two years. But the height-for-age and weight-for-height scores were affected in opposite directions (Table 9) in this sample. Mothers less than 20 years old at first childbirth had children who were significantly shorter than others in the base group (those 20 to 35), but their children tended to have greater weight for their height. It may be that any effect of a mother's age at childbirth is obscured by the averaging of nutritional status scores for all the young children in the family, but that seems doubtful. Child-specific analysis also produced mixed results. In Tables 11 to 16 mother's age at childbearing is child-specific, and no systematic pattern emerges.

It is possible that physiological effects are counteracted by parental behavior and that behavioral patterns dominate. Age at childbearing can be associated with two factors: the mother's physiological characteristics, and parental expectations of returns from children. Medical studies (e.g., Love and Kinch 1965) indicate that a very young mother is likely to produce small babies. But this physiological effect is likely to have a more detrimental effect on height than on weight. A weight deficit can be remedied more easily by current behavior and is more likely to be influenced by current expected returns. Thus young mothers (with longer time horizons) are more likely than older mothers to invest in the nutritional status of their children. This hypothesis is supported by the finding that mothers over age 35 at first childbirth tended to have children of low weight for height (column 3, Table 9).

Medical evidence indicates that a child's susceptibility to disease and infection is heightened if the mother is malnourished during pregnancy. Miscarriages and stillbirths are more prevalent among diet-deficient mothers, and these variables are used as proxies for the mother's nutritional status. The greater the number of abnormal births experienced by a mother, the greater is the expected susceptibility of her children to disease. Again, however, the regressions detected no strong influence (equations not shown). This finding suggests that once a child is born, the parents may insulate it from illness by providing the child with proper nutrition, medical attention, and general care.

Ignorance and malnutrition

There is evidence (for example, Durongdej 1982) that children may suffer nutritionally if mothers are ignorant of proper childfeeding practices. Though breastfeeding is beneficial in itself, it can be harmful if continued too long without supplemental foods. In a low-income rural setting, many mothers continue to breastfeed well beyond the normal weaning age of six months recommended by modern medical findings. If the practice could be traced to ignorance rather than to low income, then nutrition education would play an important role in presenting it.

The present study found that older children who had been breastfed for longer periods were worse off nutritionally than other children (Tables 11 to 16). The average number of months of breastfeeding per child was 20.10 with a standard deviation of 8.79 months. This means that some children were breastfed well into their third year. That supplemental foods are needed after a child reaches six months of age was not widely recognized among the mothers surveyed. But mothers who had come into contact with medical programs breastfed for shorter periods, on the average, than other mothers (Table 17). This finding is a sign that mothers in traditional set-

Table 17. Household model: results of ordinary least squares regression, with average number of months of breastfeeding per child as the dependent variable

Independent variable	Coefficient	*t*-ratio	Elasticity at means
Mother's age	-.54543	(-2.3502)*	-.83006
Value of farm production	.00002	(.3368)	.01206
Nonfarm income	-.00001	(-.9121)	-.00595
Predicted mother's wage	-.27692	(-2.7959)*	-.82196
Wealth index	-.08634	(-.1677)	-.00014
Wealth index 1	-.39197	(-.7244)	-.00078
Wealth index 2	-.12799	(-.2224)	-.00013
Wealth index 3	-1.36900	(-2.1252)*	-.00188
Wealth index 4	-.16675	(-.1865)	-.00004
Planted area	.00134	(1.1251)	.00475
Childcare	-.86496	(-1.1562)	-.02339
Farm occupation	-.24489	(-.2553)	-.00882
Mother's education	-.08720	(-.4581)	-.01889
Program contact	-4.43300	(-4.0693)*	-.01887
Constant	24.36500	(8.8842)	
Number of observations	582		
R^2	.07		
F-statistic	3.43*		

* Significant at the 5 percent level.

tings are responsive to medical advice and that education programs can affect the way parents care for their children.

Effects of malnutrition and high fertility on school performance

Both malnutrition and high fertility are found in this study to have implications for the child's ability to learn. A well-nourished child performs better in school than a malnourished one. This finding has important implications for the development of a country's human resources. If early malnutrition impairs a child's mental development, then educational resources invested in that child tend to be ineffective. Inability to take full advantage of educational opportunities, even when offered, would perpetuate the vicious circle of poverty, poor nutrition, and ill health. Improved nutrition thus would be an important complement to any program designed to raise the level of human resources.

The link between nutritional adequacy and learning ability has been the subject of much debate. Medical investigations (for example, Cravioto 1966) have shown that nutritional deprivation can limit the growth of brain cells, even while the child is in the womb. But the relationship between number of brain cells and mental ability is less certain. Winick, Rosso, and Waterlow (1970) found that children who had died of malnutrition had 15 to 40 percent fewer brain cells than well-nourished children of the same age and background who had died from accidental causes. But this does not necessarily mean that the malnourished children were less intelligent.

Several studies have investigated the relationship between test scores and nutritional adequacy. Knobloch and Pasamanick (1958) found that U.S. babies born in winter months had a lower average intelligence quotient (IQ) score, lighter body build, shorter stature, and higher incidence of mental deficiency than babies born in the spring or summer months. The cause was traced to the mother's nutrition during the critical gestation period. Another study by Willerman and Churchill (1967) compared sets of identical twins and found that in most cases the IQ of the twin with higher birth weight was about 5 percent higher at school age. Cabak and Najdanvic (1965) and Cravioto and Robles (1962) concluded that the average IQ of well-nourished children was always higher than that of the undernourished. Malnourished children, however, usually come from poverty-stricken, overcrowded homes, and multicollinearity is likely to be encountered. Important for policy purposes is a classic study by Kugelmass et al. (1944). They administered IQ tests to children over a period of time and found that the performance of malnourished children improved from 10 to 18 points after treatment. But a child receiving treatment after age 4 did not improve. If mental ability is permanently impaired by early nutritional deprivation, then it is imperative to ensure that children are well fed as early as possible. The evidence is still inconclusive, and much empirical and clinical work is needed to resolve the controversy.

A rough form of empirical testing in the present study revealed a distinct relationship between nutritional status and school grades. Even with the family's per capita income held constant, better-nourished children were found to perform better in school. To a large extent the environment was also controlled for, because in a village setting there is little difference in children's surroundings, whether the children are well nourished or malnourished. Overcrowding does not exist and the environment is generally pleasant.

Within the age range of this study (7-13) taller children in particular are the ones with better school grades (Table 18). Because height is a long-term measure of nutritional adequacy, especially in marginal cases, this finding supports the hypothesis that long-term nutritional deprivation lowers

Table 18. School performance: results of ordinary least squares regression, with grade in percentage (GRADE) as the dependent variable

Independent variable	Coefficient	*t*-ratio	Elasticity at means
Weight for age (WPTH)	-.00588	-.3273	-.00617
Height for age (HPTH)	.13049	3.1296*	.13810
Weight for height (WFH)	.02179	2.4364*	.03035
Father's occupation (OCCUF)	-.53391	-1.4390	-.00453
Sex = 1 if female (SEXF)	-.20408	-.6723	-.00114
Number of siblings under age 7 (CHLT7)	-.16137	-.9729	-.00643
Income per head (YPH)	.00002	.4339	.00030
Birth order (BTHORD)	-.25340	-2.9916*	-.00873
Father's education (EDFA)	-.11469	-1.3013	-.00536
Constant	76.73100	22.6100	
No. of observations	410		
R^2	.10		
F-statistic	4.31*		

school performance. It thus provides further support for the existence of a direct link between nutritional and mental ability. A good diet from an early age appears to be vital for proper mental development.

Children of higher birth order also tend to perform worse in school than others (Table 18). This finding is consistent with the results of other studies. For example, Record et al. (1969) investigated 50,172 children in Birmingham, Alabama, and found that children of higher birth order had lower test scores for verbal reasoning than other children. When socioeconomic class was taken into consideration, the children of higher socioeconomic status had higher scores. Nevertheless, within each class, higher-birth-order children still scored lower on the test. Blake (1981) also found that, among white couples in the United States, the more children they had, the lower the "quality"—that is, educational aspirations—of the children. These findings suggest that improved mental capacity among offspring would result from a fertility reduction program.

POLICY OPTIONS AND PROBLEMS

A dismal picture emerges from the empirical results of the current study. A large proportion of the children from low-income, low-asset farm families were found to be malnourished. Their nutritional intake was low and they were often ill. Together, poor nutrition and frequent illness limit a child's physical growth. If the child also comes from a large family, the situation is aggravated by sibling competition for family resources. If in addition the mother works outside the home, the child is further disadvantaged. Even economically better-off families have difficulty in feeding their children adequately if the mother lacks the time for childcare and access to healthcare facilities that can translate income into nutritional and health improvements for the young. Malnutrition also impairs mental development, and this does not portend well for an economically developing country.

The interrelationships revealed by the empirical analysis point to the need for development strategies that promote the multiple goals of alleviating poverty, improving nutrition and health, and lowering fertility.

The study also shows that the amount of food eaten, regardless of the kind, is an important determinant of nutritional status. Hence it supports the emerging consensus among nutritionists that nutritional deficiencies are generally the result of overall inadequacies of food intake (FAO and WHO 1976) rather than the alleged "protein gap" earlier stressed (FAO and WHO 1973).

The study further indicates that a family's overall nutritional intake is significantly increased by the value of farm production. This finding reinforces the view that agricultural development could be a critical factor in combating malnutrition. If small farm households are able to participate in the increase in productivity and income that accompanies agricultural development, then food consumption and nutritional status are likely to improve. Agricultural development is a time-consuming process, however, and there is naturally a concern for implementing more effective short-run remedies.

Intervention can be directed into three main channels: increasing income, lowering the relative price of food, and effecting changes in parental preferences and technology so that child nutrition and health may be improved.

Income-augmenting programs include direct cash transfers to needy households and the creation of remunerative jobs. The findings indicate that higher income can improve a family's nutrition and also reduce the dependency of parents on children as productive units. A decline in children's productive value is likely to lower fertility and thus reduce sibling competition.

The findings indicate that rather substantial increases in income are required to bring about a perceptible improvement in child nutrition. From reduced form estimates of the equation system (not shown), it is clear that a family would have to increase its farm income per capita by 1,000 baht per year, or by 10 percent of the mean, to raise children's average weight and height scores by a mere percentage point. A *doubling* of income per capita would be required to lift a child from a state of third-degree malnutrition to nutritional adequacy. These very substantial increases are not likely to be brought about by ad hoc employment creation, and if such jobs draw women away from the home the consequences could be that much worse.

Transfer payments are also problematic. Not only are they likely to be politically unfeasible, but also the strain they impose on a country's fiscal machinery is likely to be considerable. The usual argument in favor of income transfers (as opposed to subsidies in kind) is probably not appropriate in the case of food consumption. If people derive benefit from seeing that other people (such as children) are adequately fed, then substantial externalities, or spillovers, are generated by food consumption. Even though income transfers may mean greater satisfaction to the recipient than in-kind transfers because he has control over expenditure patterns, they may not lead to a higher level of welfare for society as a whole. In addition, households may not possess adequate knowledge of proper food consumption. If that is the case, then in-kind transfers may be more justifiable because they generate external benefits.

Programs designed to lower the price of food in relation to other goods include taxes and subsidies, ration shops, on-site feeding, and food stamps. The issue is one of weighing the relative merits of price controls versus direct food programs. In Thailand a tax imposed on the export of rice (known as the infamous "rice premium") has as one of its main objectives the maintenance of a lower domestic price. Such a policy needs to be accompanied by price supports to prevent distortionary effects from harming the production sector. Production subsidies to small, subsistence farmers may also be required in the form of irrigation systems, agricultural credit, and fertilizer. The administrative costs of such support have to be considered, and the effect of the programs on child nutrition is uncertain.

Direct food transfers may be more timely than price interventions and politically more acceptable than cash transfers. Moreover, they can be readily designed to benefit the target groups. But their effectiveness depends on several factors. Two issues in particular are involved here: market separation, and substitution of subsidized food for private purchases.

If the market is efficient, food transfers may simply increase supply and drive down food prices, without affecting total food consumption. The success of a program depends essentially on the households' response and the constraints on their behavior. If households receive food transfers in excess of what they are prepared to consume, they may exchange the food for cash unless there is market separation (that is, restriction on resale). Converting in-kind transfers into income allows households to regain control over their pattern of consumption, and in most cases this is the path that maximizes their utility. If resale takes place, then the effect of the food program is equivalent to an income transfer. Even without resale, the program operates like an income transfer if the free or subsidized food is less than the amount previously consumed. As the subsidy replaces household purchases, income equal to the value of the subsidy is released for other purposes. The effect of such programs on child nutrition therefore depends on the income elasticity of nutrient intake and health care for the young. For a food transfer program to be effective, the food must be offered at reduced prices and in quantities larger than what the household originally consumed. Moreover, the resale of food must be prohibited.

To ensure that children's consumption is increased, many developing countries have set up on-site feeding programs for children. Weaning foods or school lunches are fed directly to the children. This strategy effectively "separates the market" because resale is impossible. If the amount of food consumed on site is less than the amount previously consumed by the child at home, however, the effect cannot be greater than an equivalent income transfer. The food consumed on site partly replaces the food eaten at home and the marginal rates of substitution in consumption remain unchanged. Increased intake of subsidized food can be offset by a reduction in the intake of other foods purchased by the family.[5] Thus the effect on the child is uncertain because on-site feeding may occasion the withdrawal of other food from the child at home.

Nevertheless, the present study suggests that child-feeding programs could lead to some improvement in children's nutritional status. Sibling competition for food was found to be an important constraint on child nutrition, and there was evidence that mothers working in the formal sector may neglect their young children. Both competition and neglect can be counteracted to some extent by direct feeding.

The net effect of subsidizing a particular food depends on both the strength of food substitution in the home and the difference in caloric content between the subsidized food and the food that is being substituted for. It is necessary, therefore, to improve parents' education and awareness (the taste and technology variables) at the same time, to avoid adverse effects.

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[5] Empirical investigation of this problem has been scanty. Studies of such substitution between subsidized food and other food have tended to be ad hoc rather than analytical (for example, reports presented in U.S. Congressional hearings). Nevertheless, a study by Clarkson (1976) of the welfare benefits of the food stamp program in the United States suggests that the program has not improved nutrition among the poor. Peltzman (1973) examined a similar case of in-kind subsidies for higher education and found that where, by accepting the subsidy, the individual incurs substantial costs, the subsidy-in-kind may actually reduce total consumption.

A mother's taste and home technology can be influenced mainly through education. The immediate options include mass media advertising, door-to-door visits, food demonstrations, and improvements in the healthcare and family planning network. Many developing countries are currently undertaking these measures in an effort to improve the efficiency of childcare in rural areas. But it is important for such programs to take into account the realities of the women's situations; otherwise, the programs are doomed to failure from the start. As Levinson (1972:78) put it,

> The annals of well-meaning educators are filled with episodes of neatly arranged demonstrations attended only by the well-to-do. The educators track down the lower income mother and deliver their message to a nodding, acquiescent woman who then totally ignores it. The educator throws up her hands in horror and stomps away to write another report about the ignorant villager.

For a low-income mother, her difficult role as childbearer and rearer, food producer and processor, and household manager rarely allows her the luxury of attending a demonstration or a visit to a health clinic. Even if she attends a demonstration, she is not likely to understand the message. And even if she learns what foods are best, she may lack sufficient control over the production resources to determine which foodstuffs the family cultivates. More nutritious ways of preparing foods are often more time-consuming than traditional methods. In many cases mothers simply lack the time and resources to tend to their children's needs. Where a mother works outside the home, her child is likely to spend much of the day in the care of an older sibling. Merely providing education to women in such circumstances would not be beneficial without substantial increases in their families' income.

Another point of intervention is in health care. This study found health to be a major determinant of a child's nutritional status. Health improvements are thus essential for the effective utilization of any food consumed. Programs that reach out to the villagers in their homes are likely to be effective in improving childcare, and, if so, healthcare improvements need to be integrated into the traditional village healthcare network.

Personal contact and informal communication during the course of the survey yielded further unquantified information. For example, I found that rural women tended to use home remedies to treat their families' health problems. Occasionally they would elicit the help of some local practitioner or respected older woman if conditions appeared to be serious. Thus the health of poor rural people is not likely to be improved substantially merely by increasing the number of physicians and hospital beds or by constructing sophisticated modern facilities. Such facilities are too imposing for villagers, who are likely to prefer health services that fit into the overall patterns of their lives. The introduction of modern facilities should be encouraged only if their superiority is clearly demonstrated. Otherwise, for village families to go outside the community to some unknown professional practitioner or service entails substantial costs. Distance alone imposes economic and social costs. Added to this, the disrespect with which they are often treated acts as a further deterrent. Only if efforts are made to reduce the economic and psychological costs of using modern health facilities and to increase the benefits such facilities can provide will rural women be encouraged to bring their children there.

A more practical approach to improving health care among poor, rural households is to improve the training of traditional healthcare practitioners. Training rural midwives in modern medical techniques is one example. The family planning efforts in Thailand are another. With lower fertility, not only would sibling competition in the home be eased, leading to better nutrition, but children's performance at school would also be likely to improve. A high birth order appears to have an additional independent effect in lowering school grades. If the effect is widespread, then reduced fertility can directly increase a country's human capital and alleviate the maldistribution of income.

CONCLUSION

Malnutrition looms large as a problem with no easy solutions. One of the main objectives of the study was to increase understanding of the economic constraints faced by rural households and the extent to which those constraints affect the nutritional status of young children. The study found that child nutrition can be improved only by substantial changes on all fronts—increased income, education, and access to health care. Because small changes are ineffective and large changes difficult to realize, the problem is that much more urgent and timely intervention is that much more necessary.

Nutritional adequacy can be viewed as a form of human capital. But unlike other types of investment in human capital, the timing of investment in nutrition is vital. Early deprivation cannot be compensated for in the way that on-the-job training can compensate for deficiencies in formal schooling. Neither can children invest in themselves at an early age through loans from, say, the capital market. This study found that better-nourished children perform better than malnourished children in school. Therefore, if a large portion of a country's population is malnourished, the signs are ominous. Given the likelihood that mental development is impaired by malnutrition, it is imperative that children be provided with adequate nutrition as early in their lives as possible.

APPENDIX A. DETERMINATION OF DIETARY ADEQUACY

Adequacy of food intake can be defined as a satisfactory balance between nutrient availability and bodily needs. Human beings require nutrients and energy food for bodily functions and the metabolic reactions that sustain life. Since most living organisms, including human beings, do not possess the biochemical machinery to manufacture all their nutritional requirements, they must obtain them from the environment (Scrimshaw, Gordon, and Taylor 1968). A low nutrient intake, insufficient to meet normal needs, effects changes within cells and tissues that act to conserve the limited supply. Deficiency diseases develop, and if the diet remains inadequate, disability and death can result. Energy foods, measured in kilocalories (or, as is now more common, in kilojoules), are needed for undertaking physical activity. An important factor here is that energy use must be synchronized with energy availability; otherwise, energy will be extracted from, or in the case of excess, stored in, the body. Because energy needs supersede all other needs, the body can be receiving sufficient amounts of say, protein but use it for energy purposes if calories are not in adequate supply.

Calorie requirements have been calculated by the United Nations Food and Agriculture Organization (FAO 1957, 1970; FAO and WHO 1973) and periodically evaluated and revised by expert groups. Difficulties arise, however, mainly because physical fitness cannot be precisely defined even within an age–sex group. Dietary requirements vary widely from individual to individual for various reasons.

One of the most crucial caloric variables is the level of physical activity. FAO's standards provide useful caloric adjustments for differences in age, sex, body size, and environment, but the effect of alternative levels of physical exertion is difficult to allow for adequately. Only for the very young would this not cause a serious problem.

Devices invented to measure human energy output have established that a moderately active person uses 25 percent of available energy for physical activity and 50 percent for basic metabolism. Thus muscular exertion is the second largest user of calories (Swift and Fisher 1964). Human activity can vary greatly, however. Caloric costs have been calculated for various organized sports and occupations (Durnin and Passmore 1967), but those findings are mostly inapplicable to peasant societies, in which work periods and levels of exertion, even for children, can fluctuate widely from day to day and also with the agricultural cycle (Beeghly 1972).

Two measurement processes have evolved whereby the activities of specific individuals can be monitored and energy output studied. Those processes are calorimetry and measurement of the heart rate. Calorimetry, the process of measuring heat, can be done directly or indirectly because a significant relationship exists between oxygen intake and heat output during the process of metabolism (Durnin and Passmore 1967). Food enters the body as stored energy; to fuel bodily functions, it must be liberated by oxygen through the process of oxidation. Once released, energy facilitates chemical synthesis, muscular work, and ionic balance. Ultimately, it is reduced to heat. Thus metabolic activity can be determined either directly, through the output of heat, or indirectly, through the intake of oxygen. The heart rate can be used as a measure of energy output because a linear relationship exists between it and an individual's oxygen uptake over most of his range of activities (Wyndham et al. 1959; Malhotra et al. 1963; Ekblom 1969). A complication arises, however, when greater cardiac capacity occurs in response to physical exertion so as to produce a lowered heart rate. Both calorimetry and heart-rate measurement require sophisticated equipment and body attachments to ensure accuracy and effectiveness, and this makes their use cumbersome and impractical.

Even if activities are the same, there is no simple relationship between food intake and task performance. One factor that must be considered is disease, which can affect the requirements for nutrients in many ways. Chronic infections can cause a slowdown in the gastrointestinal function and increase the need for dietary protein; acute infections can result in losses of nitrogen, vitamins, and minerals; parasitic infections can prevent proper nutrient absorption; disease may upset the mechanisms that control the metabolism of essential nutrients; acute and chronic infections can adversely affect absorption of nutrients in the digestive tract; and trauma and stress, which often accompany disease, can alter the body's protein requirements (Scrimshaw, Gordon, and Taylor 1968). The amount of food regarded as necessary therefore varies with the incidence of disease.

Diet itself affects nutritional requirements in several ways. The form of a nutrient may affect the degree of absorption and utilization by the body. For example, iron from vegetables is less readily absorbed than iron from meat. Variability in nutrient form and eating habits on a seasonal or annual basis may affect nutritional requirements. Composition of the diet also affects the body's utilization of nutrients. For example, it is believed that each of the essential amino acids must be simultaneously present for protein synthesis to proceed. Finally, certain vitamins are produced by bacteria that live in the small intestine in a symbiotic, or mutually beneficial, relationship with the host. These vary from individual to individual.

Dietary requirements are necessarily affected by the physical and socioeconomic environment, including climate, type of clothing, sanitary conditions, hygiene, eating habits, and the ability to maintain hygenic standards.

Disease, dietary factors, and the environment in combination make recommendations of dietary adequacy extremely difficult, and therefore only guidelines can be set. Recommended daily allowances set by international agencies are usually based on Western meat-based diets and do not adequately take into account cultural variations in diet or the other factors that affect nutritional adequacy.

APPENDIX B. QUESTIONNAIRE DESIGN

The questionnaire contained eight sections: basic information on household numbers; income and wealth; major expenditures and investments; marriage and reproductive history; childcare and mother's knowledge and beliefs; household food consumption patterns; children's nutritional status and disease history; and children's school performance.

1. Basic information on household members

Household members were defined as related persons who pooled their earnings and had common arrangements for housekeeping, finance, and the provision of food and other essentials. Membership was determined on a de facto basis, and household members absent for less than one month were counted. Name, age, sex, educational attainment, relationship to household head, and main economic activity were recorded.

2. Income, earning activities, and wealth

Total household income was calculated for the calendar year immediately preceding the survey.[6] It included wages and salaries; property income such as land rent and interest; transfer payments received such as assistance payments; the value of goods and services received as part of pay, the value of unpaid farm help, and the value of goods and services produced in the home and consumed, or received free of charge from other sources; net profits from family enterprises; income from livestock and occasional activities such as fishing; rental value of owner-occupied dwellings; and other monetary receipts such as gifts from nonmembers of the household and lottery winnings.

Detailed information was obtained on land ownership and cultivation, use of farm equipment, number of employees, and animals owned. A checklist was used to facilitate an inventory of consumer durables in the household's possession. Items on the list included clock, iron, electric fan, radio, sewing machine, bicycle, motorcyle, refrigerator, television set, and stereo. Housing quality, represented by the size of the house, the type of windows, roofing, flooring, and building materials, were noted from observation.

3. Major expenditures, investments, and debts

Respondents were asked about outlays for major items, such as purchases of gold, land, and machinery, and about investments and sources of funding. Other questions inquired about outstanding debts, the interest rate paid, the lending source, and the purposes for which loans were incurred during the past calendar year.

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[6] The pretests were done in December 1979 and the actual survey administered in January 1980. Since the harvest occurred in December, the main economic activity of the year had just been completed.

4. Marriage, fertility, and use of contraception

Information was obtained about female respondents' age at first marriage and at subsequent marriages, if any; ideal and expected family size at time of marriage and at the time of the interview; pregnancies, including the outcome of each and type of prenatal care received; and use of contraception, duration and methods used, and, for women who had stopped using contraception, their reasons for stopping.

All of the data except for the pregnancy history were obtained from fixed-option questions. For the pregnancy history a matrix format was used that was based on the life-history matrix utilized by Lauro (1977); but because it was confined to a single event (pregnancy), its use was facilitated and the probability of omitting incidents was greatly reduced. The age-by-variable matrix helped respondents to recall events they had experienced at each age and provided a convenient means for cross-checking the data.

Obtaining accurate information about respondents' desired fertility posed several problems. Parents might rationalize unplanned births by regarding them as desired after the fact. The alternative to asking about desired number of children was to use actual fertility as a proxy for desired fertility, but this also has problems. A large proportion of the women in the sample (whose ages ranged from 15 to 57) would not have completed their fertility at the time of the survey. Moreover, the sample was limited to women with at least one child less than 7 years old, which meant that a disproportionate number of women were in the younger age groups. The actual fertility experience of young women is not a reliable indicator of their completed fertility. And if unplanned births are common, actual fertility will be a poor proxy for desired fertility. Therefore no attempt was made to ascertain respondents' desired number of children. In this study, fertility is represented by the number of births respondents had had per year of cohabitation during the previous seven years. Although this item established recent rather than total fertility, it ensured that the births being identified and the variables explaining them were measured within the same time period, in contrast to cross-sectional studies of completed fertility. In addition, the number of children under age 7 was likely to be more important than the total number of births in affecting the nutritional status of children under age 7. Another reason for focusing on recent fertility was that older children may substitute for a mother's time in caring for younger siblings and therefore would not enter into the quality–quantity tradeoff postulated here.

5. Childcare and mothers' knowledge, beliefs, and aspirations

Mothers were asked whether they had breastfed their children and for how long, when they had introduced their children to solid foods, and generally which kind of infant care they had provided. Mothers were also asked about their beliefs, superstitions, and reactions to illness. Other questions were whether they knew of any modern contraceptive method, whether they were aware of the health benefits of breastfeeding, and whether they believed in supernatural methods of healing. To gauge parental attitudes toward hygiene and health care, respondents were asked whether they had received any modern prenatal care during the last pregnancy and whether modern medical attention would be sought as a first choice in times of illness. They were also asked whether they considered education to be necessary for their children and, if so, how many years of education they regarded as essential for their children to earn a "good" living.

6. Food consumption and intrahousehold division of food

Food consumption by the family was calculated as consumption per adult equivalent over a period of six months. To determine the total quantities of different foods consumed, respondents were asked about the quantities of each food item consumed and the frequency of consumption. The unit of measurement was not determined in advance, and responses were recorded according to whatever unit of measurement was meaningful to the respondent. If necessary, a follow-up question was asked about the average quantity consumed per meal. Because the villagers had very similar diets, it was possible to draw up a list that included virtually all the food items.

Respondents were asked about total quantities consumed by the family because I believed this to be easier for them to recall than the amount consumed by each household member over a twenty-four-hour period. Not only is the accuracy of recall a problem for rural respondents, but also the manner in which food is consumed. Where family members take their share of food from several common bowls, a precise assessment of the amount eaten by each person may be impossible. The responses obtained were subsequently rescaled on a six-month basis and valued at prevailing prices. Separate schedules were drawn up for the wet and dry seasons, and a simple average taken for valuation purposes. Attempts were also made to determine the distribution of food among household members, but I believe the responses are unreliable. The figures obtained were compared with data from a survey conducted in the same area by the Institute of Nutrition and the Ministry of Agriculture (undated and untitled worksheets). The mean values proved not to be significantly different from each other at the 5 percent level.

The questionnaire elicited information on the number of months children were breastfed and the customary weaning period. Whether a particular child was in the weaning period was also noted. Two alternative meanings of weaning exist in the literature: the cessation of breastfeeding, and the time at which solid foods or foods other than milk are introduced. Health risks of weaning arise because supplemental food may be inadequate or unhygienically prepared. I therefore adopted the definition of weaning as the period commencing when solid foods are introduced and continued until three months after suckling has been discontinued (Scrimshaw, Gordon, and Taylor 1968).

7. Height and weight measurement of eligible children and recording of their disease history

The weighing and measurement of each child was undertaken by two trained prenurses, and I did spot-checking for possible error. The weight and height measures were then calculated as percentages of the standards for healthy Thai children. The standards for children up to 6 years of age are the fiftieth percentile of the weights and heights of 2,520 well-nourished Bangkok children, documented by Khanjanasthiti (1977).

Respondents were also asked about each child's disease history. Recorded information included frequency of diarrhea, fever, and incidence of such diseases as typhoid, diphtheria, and tuberculosis. Three separate measures of infection and disease were defined: whether the child had continuous diarrhea for more than four days during the month prior to the survey; whether the child had a fever for more than four days during that period; and whether the child had ever suffered from a serious illness such as tuberculosis, typhoid, or diphtheria. A single cross-sectional survey precludes a reliable reconstruction of a child's medical history because recall inaccuracy is likely to be high. Moreover, responses contain a large element of subjectivity and depend a great deal not only on parental recall, but also on the respondents' perception of what constitutes a health abnormality. Such lack of refinement in measuring a child's health weakens the explanatory power of the model, but the incidence of disease reflects the composite effect of other underlying health problems and is therefore appropriate if a single measure of health has to be selected.

8. Teacher interview and recording of nutritional status and school grades

Older siblings attending primary school were weighed and measured. The anthropometric standards found in Chavalittamrong and Vathanakanon (1978) were used as the standards for the school-aged children. Teachers were asked about children's overall performance and health, and each student's grade and record of absence from school were obtained from the teacher's records.

The interview schedule was made as simple as possible. It was composed mainly of fixed-option questions. The main part of the questionnaire (through section 7) required an average of one hour and fifteen minutes to complete. The principal problem respondents had was in recalling their full pregnancy histories (section 4). Recalling the quantity and frequency of each kind of food consumed (section 7) also presented problems, but interviewers made extensive probes and the results are believed to be satisfactory.

Appendix Table 1. Household model variables

Variable (mean, S.D.)	Description
ENDOGENOUS VARIABLES	
Nutritional status	
Average weight (91.97, 9.85)	Average weight of all children in the household, each weight being a percentage of the reference weight for children of that age and sex
Average height (94.03, 4.56)	Average height for all children in the household, each height being a percentage of the reference height for children of that age and sex
Average weight for height (103.66, 13.56)	Average weight of all children in the household, each weight being a percentage of the reference weight for children of that height
Child mortality (.108, .258)	Deaths to children under age 7 as a proportion of total births within the last seven years
Fertility (.473, .233)	Number of live births per year of exposure to conception in the last seven years
Formal-sector work (22.89, 16.01)	Average weekly hours spent by the mother in formal-sector work
Informal-sector work (.482, .250)	Dummy variable = 1 if the mother engages in informal-sector activity compatible with childcare
Food expenditures (276.09, 83.65)	Value of household food consumption per adult equivalent per month
EXOGENOUS VARIABLES	
Mother's age	Mother's age in years
Childbearing < 20 (.287, .453)	Dummy variable = 1 if the mother was less than 20 years old when she bore her first child
Childbearing > 35 (.100, .300)	Dummy variable = 1 if the mother was more than 35 years old when she bore her first child
Excess number of children (-.278, 1.39)	Number of children stipulated by the parents as being in excess of the desired number
Number of young children (2.43, 1.18)	Number of children less than 7 years old in the household
Mother's education (4.02, 1.26)	Education of the mother, in years of completed schooling

Appendix Table 1. *(continued)*

Variable (mean, S.D.)	Description
Ignorance variable 1 (.112, .315)	Dummy variable = 1 if the mother does not know of at least one modern method of birth control
Ignorance variable 2 (.331, .471)	Dummy variable = 1 if the mother believes in supernatural methods of healing
Ignorance variable 3 (.605, .489)	Dummy variable = 1 if the mother expresses ignorance about proper breastfeeding and child-care practices
Prenatal care (.134, .341)	Dummy variable = 1 if the mother received modern prenatal care during her last pregnancy
Program contact (.735, .442)	Dummy variable = 1 if the village has had contact with a health program
Abnormal pregnancy (.072, .197)	Number of pregnancies terminated "abnormally" (stillbirths, spontaneous abortions, and induced abortions), as a proportion of the total number of pregnancies
Total income (17659, 10711)	Household income other than the mother's earnings in informal-sector employment, if any
Income per head (4980.78, 1398.20)	Household income per head other than the mother's earnings in formal-sector employment
Farm income (11043, 8357)	Value of farm production during the preceding year
Nonfarm income (6616, 6142)	Value of nonfarm income during the preceding year
Mother's wages (59.68, 18.91)	Mother's average formal-sector weekly wage rate
Wealth Index 1 (.034, .844)	First factor resulting from the principal components method of data reduction: an index of high-priced consumer durables owned
Wealth Index 2 (.040, .824)	Second factor; an index of lighting equipment owned
Wealth Index 3 (.020, .719)	Third factor; an index of building materials used
Wealth Index 4 (.276, .597)	Fourth factor; an index of nonessential consumer durables owned

Appendix Table 1. *(continued)*

Variable (mean, S.D.)	Description
Wealth Index 5 (.005, .457)	Fifth factor; an index of small consumer durables owned
Planted area (71.39, 2110)	Total number of *rai* under cultivation in the preceding year
Childcare alternatives (.543, .499)	Dummy = 1 if older relatives are present in the household and provide childcare
Priority given to children (.483, .500)	Dummy = 1 if children are given priority in food consumption
Farm occupation (.723, .448)	Dummy = 1 if the father's primary occupation is agriculture
Father's education (4.34, 2.01)	Number of years of schooling completed by the father

Appendix Table 2. Child model variables

Variable (mean, S.D.)	Description
ENDOGENOUS VARIABLES	
Nutritional status	
Weight (91.04, 11.28)	Weight of the child as a percentage of the reference weight, using Thai anthropometric standards for children of that age and sex
Height (93.54, 6.11)	Height of the child as a percentage of the reference height, using Thai anthropometric standards for children of that age and sex
Weight for height (99.39, 13.68)	Weight of the child as a percentage of the reference weight for children of that height
Child health	
Diarrhea (.032, .176)	Dummy variable = 1 if the child had more than four continuous days of diarrhea during the month immediately preceding the survey
Fever (.061, .239)	Dummy variable = 1 if the child had more than four continuous days of fever during the month immediately preceding the survey

Appendix Table 2. *(continued)*

Variable (mean, S.D.)	Description
Disease (.198, .399)	Dummy variable = 1 if the child suffered from chronic typhoid or tuberculosis
Child mortality	(Same as in the household model)
Fertility	(Same as in the household model)
EXOGENOUS VARIABLES	
Space before (9.77, 11.81)	Interval in months between this birth and the following pregnancy (= 18 if this is last birth)
Space after (21.64, 22.04)	Interval in months between the beginning of this pregnancy and the preceding birth (= 18 if this birth is the first birth)
Pregnancy order (3.75, 2.78)	Dummy variable = 1 if the child's pregnancy order is greater than 4
Breastfeeding (1.44, 2.12)	Proportion of the child's life during which child is breastfed If age $<$ 24 months, proportion = (# months breastfed)/age If age $\geq$ 24 months, proportion = (# months breastfed)/24
Weaning (.503, .500)	Dummy variable = 1 if the child is in the weaning period
Birth order (3.38, 2.26)	Birth order
Female (.497, .500)	Dummy variable = 1 if the child is female

Note: The means and standard variations are for the total sample of 1,006 preschool children only.

Appendix Table 3. Consumer durables used to construct the wealth indexes, by factor loading resulting from varimax rotation

Consumer durable	FACT1	FACT2	FACT3	FACT4	FACT5
Electricity	.1333	.8726	.1346	.2198	.1706
Fan	.2793	.1794	.1149	.8608	.1041
Refrigerator	.7700	.1005	.0761	.0230	.1019
Iron	.4079	.3006	.0892	.5225	.1512
Rice cooker	.2129	.1048	.0386	.3747	.0247
Radio	.0107	-.0062	.0258	-.0072	.4844
Clock	.1301	.1146	.1433	.0963	.5050
Sewing machine	.3632	.0606	.2620	.1371	.2192
Bicycle	.0837	.1126	.1711	.0633	.3522
Motorcycle	.3099	.0966	.1705	.1193	.1746
Television	.6684	.0300	.0781	.1518	.0721
Car	.3656	0715	0838	1453	0289
Lighting	.1125	.8796	.1458	.1867	.0980
Building material	.1777	.1115	.7531	-.0017	.0619
Window	.0830	.0934	.4701	.1400	.2305
Flooring	.4430	-.0074	.4542	.0426	-.0632
Size of house	.0051	.0825	.4366	.0498	.2597
Eigen value	4.15955	1.24659	1.04740	0.56671	0.44275
% variance	55.7	16.7	14.0	7.6	5.9
Cum %	55.7	72.4	86.5	94.1	100.0[a]

Note: Selection of items was based on a loading that was rounded to at least 0.5.

a. Rounded total.

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and Fred Arnold

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ABSTRACT A new procedure for the simultaneous and consistent correction of two or more censuses and intercensal registered births and deaths is applied to Thailand's censuses of 1960, 1970, and 1980, and to registered births and deaths for the period 1960–80. The procedure begins with a set of preliminary correction factors that are inconsistent because they are derived from a variety of existing sources. The procedure then identifies the set of consistent correction factors that are "closest" to the preliminary factors.

The results show marked underenumeration of the 0–4 age group in each census, especially the 1960 census in which age rounding was apparently prevalent. Age exaggeration at the oldest ages is also indicated, at least in the 1970 and 1980 censuses. Birth registration completeness rose during 1960–80, from about 82 to 85 percent for males and from about 78 to 85 percent for females. Nevertheless, death registration completeness for both sexes hovered within the 61 to 67 percent range, declining slightly until the early 1970s, when it leveled off or began to rise. The age group 0–4 had the greatest underregistration of deaths, and underregistration at this age apparently increased throughout the period. Although life expectancy increased for both sexes during the period, female superiority in life expectancy also increased. The average number of years of life expectancy is estimated to have increased from 59.3 for females and 54.8 for males in 1960–65 to 65.2 for females and 58.1 for males in 1975–80.

The Thailand censuses of 1960, 1970, and 1980 and vital registration during the period 1960-80 have been the subject of various estimates of census undercount, adjusted census age–sex distributions, underregistration of births and deaths, intercensal life tables, and other demographic variables, many of which are mentioned below. However, these estimates, as a whole, contain many inconsistencies. The purpose of this paper is to provide a new, consistent set of estimates for these data, making selective use of the previous estimates.

To accomplish this purpose, a new procedure for the simultaneous and consistent correction of two or more censuses and intercensal registered births and deaths (Luther and Retherford 1986a, 1986b) is applied to Thailand's censuses of 1960, 1970, and 1980 and to the registered births and deaths for the intervening period of 1960–80. Specifically, for each sex the procedure provides estimates of (1) correction factors for intercensal registered births, (2) age-specific correction factors for intercensal registered deaths, (3) age-specific correction factors for the age distribution at each census, and (4) life tables for the intercensal periods, such that the corrected registered births and deaths, the corrected census age distributions, and the estimated life tables are mutually consistent. Furthermore, the corrected births satisfy a specified sex ratio. Consistency here means that the usual intercensal demographic balancing equations relating census age distributions, births, and deaths by age are exactly satisfied. Net international migration was negligible for the period 1960–80, so that it may be ignored. The volume of permanent immigration and emigration was small throughout this period. Temporary migration of contract workers to the Middle East began to increase in 1978, but it did not become substantial until after the 1980 census.

METHOD

The procedure begins with a set of preliminary correction factors that are not necessarily consistent. These preliminary correction factors are derived from previous estimates and by existing methods of demographic analysis, as detailed below. Starting from this set of preliminary correction factors and the demographic data themselves, the new procedure specifies a "best," or optimal, set of final consistent correction factors that is "closest" to the set of preliminary correction factors. The optimization procedure finds this closest set by use of the principle, from the mathematics of finite-dimensional vector spaces, that there exists in a hyperplane a unique point of minimum distance from a fixed point not in the hyperplane. The methodology is explained in Luther and Retherford (1986a, 1986b); the latter source gives details for the non-mathematically-inclined reader. It is shown in those sources that, by utilizing the concept of weighted distance, the procedure allows the analyst to weight the preliminary estimates according to the analyst's assessment of their accuracy. The use of "proportional weights," as described in the application of the procedure to South Korean data for 1970–80 (Luther and Retherford 1986a, 1986b), will spread the correction evenly over the preliminary correction factors. This is also appropriate for the Thailand application since we would assess all of the preliminary correction factors derived below to be of comparable accuracy.

The three-census application to Thailand given in this paper illustrates an important advantage of this procedure: that it may be used to correct consistently more than two censuses at a time, along with intercensal births and deaths. In contrast, most previous procedures correct just two censuses at a time (e.g., Demeny and Shorter 1968; Preston 1983), and that typically leads to inconsistent results for the intermediate censuses from the separate applications of the procedure. In particular, most previous analyses of Thailand data have involved just two successive censuses (e.g., Fulton 1979; Arnold and Phananiramai 1975; Pejaranonda, Arnold, and Hauser 1983).

Another advantage of the consistent correction procedure is that it allows the researcher great leeway in the amount and type of structure that is imposed. For example, one may require the final age-specific correction factors to be the same from census to census, as with the Demeny–Shorter technique (Demeny and Shorter 1968) and the "variable *r*" methods (Preston

1983). No such assumptions are made for the Thai application given here, however. This latter, more flexible approach, which is often more realistic and appropriate, was adopted for the Korean application as well (Luther and Retherford 1986a, 1986b). Or one may compromise and assume that the final correction factors follow some trend. As an example of a different type of restriction that the procedure allows, we have fixed the sex ratio for the corrected Thai births. In fact, the only conditions that must be satisfied by the restrictions involving the correction factors are that these restrictions be linear in the factors and hold when all factors are zero.

The procedure, however, has limitations. The primary one is that the final correction factors are sensitive to errors in the preliminary correction factors. Consequently, it is important to estimate the preliminary correction factors as accurately as possible.

In any case, the final correction factors given by the procedure yield consistent adjustments of the data. The degree to which these adjustments are actually corrections depends on the accuracy of the preliminary correction factors.

APPLICATION TO THAILAND, 1960–80

All censuses are treated as if they occurred on 1 April, although the 1960 census was taken on 25 April. The four five-year intercensal periods that will be frequently mentioned are those separated by 1 April of the years 1960, 1965, 1970, 1975, and 1980.

The input into the procedure, and specifically into the computer program (which may be obtained from the authors), consists of: (1) the 1960, 1970, and 1980 reported census age distributions by sex and five-year age groups (open-ended at age 70), given in Tables 1 and 2 in the next section, with each census age distribution uniformly premultiplied by a correction factor based on a census underenumeration estimate (the details of this premultiplication are given with the derivation of the preliminary correction factors in Appendix A); (2) total registered intercensal births by sex for each of the four five-year intercensal periods, given in Tables 5 and 6; (3) total registered intercensal deaths by sex and five-year age groups (open-ended at age 70) for each of the four five-year intercensal periods, again given in Tables 5 and 6; (4) l_0, l_5, and ${}_5L_0$ values by sex for each of the four five-year intercensal periods obtained from Coale–Demeny model North life tables (levels 16.825, 17.175, 17.525, and 17.875 respectively for males given in Appendix Table B.3, and 17.0, 17.6, 18.2, and 19.0 respectively for females given in Appendix Table B.4) in order to yield an estimate of the separation factor for deaths at ages 0–4 by sex for each of the four five-year intercensal periods; (5) a specified sex ratio at birth of 1.058 for each of the four five-year intercensal periods; and (6) estimated preliminary correction factors for each of the demographic quantities listed in (1), (2), and (3). Because there are fifteen age groups (fourteen five-year age groups plus the open-ended one), for each sex there will be forty-five census correction factors (fifteen for each census) and sixty death correction factors (fifteen for each five-year intercensal period). If we add to this the four correction factors for births for each sex (one for each five-year intercensal period), we have a total of 109 correction factors for each sex. The preliminary correction factors are put into the computer program with male factors first and female factors following. The order of preliminary correction factors for each sex is births first (in chronological order), then censuses (youngest to oldest age group in first census, in second census, etc.), then deaths (youngest to oldest age group in first intercensal period, in second intercensal period, etc.).

Because registered births and deaths (by age) for Thailand are tabulated by calendar year, it was necessary to interpolate to obtain registered births and deaths for the four five-year intercensal periods. For example, registered births for the first five-year intercensal period, 1 April 1960 to 1 April 1965, include three-fourths of the births for 1960, all of the births for 1961–64, and one-fourth of the births for 1965. The same interpolation procedure was used for deaths by age group.

Coale–Demeny model North life tables have been used frequently in the analysis of Thai data, for example by Pejaranonda, Arnold, and Choe (1985) and by Fulton (1979) after a careful study comparing the fit of the different Coale–Demeny (1966) model life table families to Thai mortality experience. We opted for such model tables rather than those resulting from the Surveys of Population Change (SPC) of 1964–67 and 1974–76 (Thailand, National Statistical Office 1969, 1978) because of the irregularity of some SPC ${}_5q_x$ values, probably due to the small sample size. At the mortality levels listed in (4) above, the Coale–Demeny model North tables are applied both for estimating separation factors for deaths at ages 0–4 and for deriving the preliminary correction factors for deaths. The one exception involves the later adult ages, where it was judged that the SPC life tables more accurately reflect Thai mortality experience during 1960–80; therefore the SPC life tables were employed for both sexes rather than the model North life tables in order to derive the preliminary correction factors for deaths for the 70+ age group for each of the four five-year intercensal periods.

Moreover, the life expectancy values (e_0) from the SPC life tables determined the levels of the model North life tables that were used. For example, the 1964–67 and 1974–76 SPC male life tables list e_0 values of 56.27 and

58.00 respectively. These values were assumed for the dates 1 April 1965 and 1 April 1975, which are encompassed by the respective SPCs. Model North levels of 17.0 and 17.7 were matched to these male e_0 values at these dates; accordingly, life tables for males for each of the four five-year intercensal periods were obtained by linear interpolation, taking the reference dates to be the midpoints of the five-year periods.

The same process was used to obtain a female life table for each five-year intercensal period, except that level 19 was used for the period 1 April 1975 to 1 April 1980 rather than 18.8 as would result from linear interpolation. The decision to use this higher level was based on evidence that life expectancy for females was accelerating in the 1970s, at least in relation to that for males (Hill 1979). Moreover, the results from using the lower figure of 18.8 contradicted preliminary evidence from the 1984–86 SPC that death registration completeness leveled off in the 1970s rather than continuing its earlier decline.

The preliminary correction factors for deaths by sex and by five-year intercensal period for the 70+ age group were obtained from the SPC life tables as follows. The SPC life tables for 1964–67 and 1974–76 were ascribed to the dates 1 April 1965 and 1 April 1975 respectively. Linear interpolation was performed, and again the reference dates were taken to be the midpoints of the five-year intercensal intervals.

The estimate of 1.058 as the true sex ratio at birth was based on the average of the values 1.055 and 1.062 obtained by the 1964–67 and 1975–76 SPCs. The same value of 1.058 was input for each of the five-year intercensal periods since there is no reason to expect the sex ratio at birth to vary from one five-year period to the next. The correction procedure then requires that the corrected registered births satisfy the specified sex ratio of 1.058 for each five-year intercensal period. This feature has been added to the correction procedure since its original description in Luther and Retherford (1986a, 1986b).

The complete details of the derivation of the preliminary correction factors are given in Appendix A. The reader who is interested in the mechanics, as well as the results, of the consistent correction procedure can refer to that appendix. As mentioned before, the more theoretical aspects of the methodology of the procedure are given in Luther and Retherford (1986a, 1986b).

Finally, it is worth noting that the cost of running the computer program for this application involving three Thai censuses and four five-year intercensal periods is only about $16.

PRINCIPAL FINDINGS

The principal findings are given in Tables 1-11, Figures 1-5, and Appendix Tables B.1-B.5.

Censuses

Tables 1-4 and Figures 1 and 2 present the final results for the censuses. In Figures 1 and 2 the final correction factors of Table 3 are compared with the corresponding preliminary correction factors given in Appendix Table B.2.

Especially striking is the high degree of underenumeration of the 0-4 age group for both sexes for all censuses, but especially for the 1960 census (Table 4). This is consistent with the observation of Chamratrithirong, Debavalya, and Knodel (1978), Panel on Thailand (1980), United Nations (1966), and others that the 0-4 age group was especially underenumerated in the 1960 census because of age rounding owing to the fact that the census question asked for ages of household members rather than dates of births. Thus the ages of children between exact ages 4½ and 5 were frequently rounded upward to age 5. This was less likely to occur in the 1970 and 1980 censuses, in which date of birth was asked rather than age.

If there was rounding to the nearest age at all ages in the 1960 census, then the count of, say, the 5-9 age group (exact ages 5 to 10) included some children between exact ages 4½ and 5 and excluded some between exact ages 9½ and 10. Suppose the extent of rounding was substantial and of similar proportions throughout the entire population. Since the total population between exact ages 4½ and 5 exceeds that between exact ages 9½ and 10, such rounding would tend to result in a relative overcount of the 5-9 age group and, for the same reason, those age groups above it. Thus for those age spans in which enumeration was relatively complete, slight overenumeration would appear. The results show this to be true for ages 20-49 for both males and females in the 1960 census (see Table 4). Since the 1960 census is believed to have given a relatively complete count for ages 5 and above (United Nations 1966), such slight overenumeration for some age groups is plausible.

On the other hand, the results imply that the 1970 census contained considerable underenumeration at ages 20-49 as well as at ages 50-69. Of course, the total population of the 1970 census was substantially more underenumerated than the 1960 census (see, e.g., Fulton 1979; Preston and Hill 1980; and Luther 1983 as well as Table 4).

Table 4 also indicates considerable age exaggeration at the older ages in both the 1970 and 1980 censuses, although the age exaggeration for males in 1970 was not sufficient to offset the general undercount. One cannot discern from the procedure, however, whether such age exaggeration occurred

Table 1. Reported and final corrected census age distributions and estimates of completeness for males: Thailand, censuses of 1960, 1970, and 1980

	1960		1970		1980	
Age group	Reported	Corrected	Reported	Corrected	Reported	Corrected
0-4	2,141,559	2,512,313	2,866,562	3,234,789	2,771,779	3,040,599
5-9	2,016,266	2,001,079	2,682,560	2,757,912	2,979,485	3,204,070
10-14	1,565,889	1,558,905	2,312,473	2,353,701	3,006,300	3,071,068
15-19	1,265,152	1,297,995	1,834,496	1,932,295	2,696,618	2,676,213
20-24	1,214,356	1,202,446	1,323,314	1,500,287	2,239,837	2,275,485
25-29	1,026,654	1,019,704	1,099,473	1,236,913	1,743,323	1,847,351
30-34	885,681	875,690	1,048,649	1,141,353	1,333,155	1,423,980
35-39	693,448	690,219	954,165	960,952	1,161,496	1,170,734
40-44	569,749	563,945	775,308	818,919	1,064,541	1,075,500
45-49	494,691	487,183	599,876	634,543	927,227	891,716
50-54	402,425	403,137	472,783	507,599	744,588	744,492
55-59	322,258	322,151	388,820	424,953	543,743	555,018
60-64	229,018	242,226	301,182	333,743	411,260	422,898
65-69	149,291	157,901	213,227	245,689	296,774	328,187
70+	177,685	187,933	250,973	267,276	408,481	395,896
Total	13,154,122	13,522,828	17,123,861	18,350,923	22,328,607	23,123,208
Completeness (%)	97.27		93.31		96.56	

Sources: Reported figures are from Thailand, Central Statistical Office (1962: table 3, p. 9); Thailand, National Statistical Office (1973: table 4, p. 12; 1983: table 4, pp. 22-23). Unknown ages are allocated proportionally.

Table 2. Reported and final corrected census age distributions and estimates of completeness for females: Thailand, censuses of 1960, 1970, and 1980

	1960		1970		1980	
Age group	Reported	Corrected	Reported	Corrected	Reported	Corrected
0-4	2,105,216	2,439,170	2,799,770	3,117,372	2,654,067	2,954,623
5-9	1,982,900	1,974,806	2,609,020	2,673,382	2,855,893	3,129,504
10-14	1,527,750	1,520,036	2,255,500	2,308,528	2,898,197	3,000,334
15-19	1,238,223	1,242,389	1,887,756	1,918,301	2,711,643	2,616,050
20-24	1,206,032	1,198,094	1,363,440	1,475,896	2,281,192	2,257,910
25-29	1,048,097	1,038,303	1,144,824	1,200,251	1,811,104	1,865,258
30-34	871,233	865,134	1,078,451	1,154,181	1,365,493	1,426,153
35-39	681,001	677,001	958,819	992,093	1,183,324	1,155,458
40-44	564,692	561,835	767,302	819,472	1,102,535	1,107,333
45-49	483,720	480,027	598,210	633,529	967,187	940,695
50-54	410,994	418,251	490,414	519,371	768,793	765,667
55-59	329,554	334,693	402,239	434,036	567,740	577,231
60-64	245,371	262,045	324,633	365,000	442,596	457,181
65-69	163,855	174,990	239,203	271,841	333,312	358,791
70+	245,099	261,755	353,933	347,895	552,857	522,357
Total	13,103,737	13,448,530	17,273,514	18,231,149	22,495,933	23,134,546
Completeness (%)	97.44		94.75		97.24	

Sources: Same as Table 1.

Table 3. Final correction factors: Thailand, censuses of 1960, 1970, and 1980

	1960		1970		1980	
Age group	Males	Females	Males	Females	Males	Females
0–4	1.173	1.158	1.129	1.113	1.097	1.113
5–9	.992	.996	1.028	1.025	1.075	1.096
10–14	.995	.995	1.018	1.024	1.021	1.035
15–19	1.026	1.003	1.053	1.016	.992	.965
20–24	.990	.993	1.134	1.083	1.016	.990
25–29	.993	.991	1.125	1.049	1.060	1.030
30–34	.989	.993	1.088	1.070	1.068	1.044
35–39	.995	.994	1.007	1.034	1.008	.977
40–44	.990	.995	1.056	1.068	1.010	1.005
45–49	.985	.992	1.058	1.059	.962	.973
50–54	1.002	1.018	1.073	1.059	1.000	.996
55–59	.999	1.016	1.092	1.079	1.020	1.017
60–64	1.058	1.068	1.109	1.125	1.029	1.033
65–69	1.058	1.068	1.152	1.136	1.105	1.076
70+	1.058	1.068	1.065	.983	.969	.945

Note: The entries here may be obtained by dividing the corrected population by the corresponding reported population in Tables 1 and 2.

in the 1960 census. With the choice of the same preliminary correction factors for the last three age groups in the first of the three censuses and the use of the "proportional weights," mentioned earlier, to spread the correction evenly, it can be shown that the procedure will necessarily yield the same final correction factors for those last three age groups in the first census. Thus the figures 1.058 for males and 1.068 for females for the 1960 census should be considered as the final correction factors (and, correspondingly, 94.5 percent for males and 93.6 percent for females as the final completeness estimates) for the combined 60+ age group rather than for the 60–64, 65–69, and 70+ age groups separately.

As Figures 1 and 2 indicate, the preliminary and final correction factors for the censuses agree quite well except at the late ages. This shows that a considerable degree of consistency is already present with the determination of the preliminary correction factors (see Appendix A).

Vital registration

The vital registration results are given in Tables 5–8 and in Figures 3 and 4, in which preliminary and final correction factors for deaths are compared.

Table 4. Completeness estimates (percentages): Thailand, censuses of 1960, 1970, and 1980

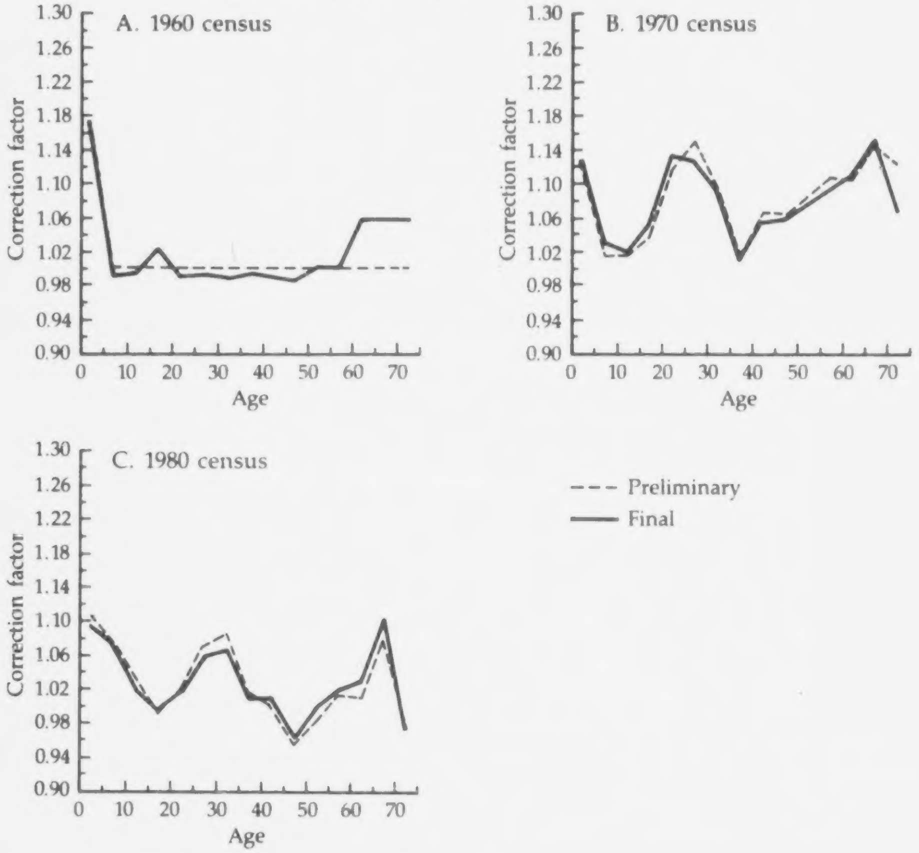
	1960		1970		1980	
Age group	Males	Females	Males	Females	Males	Females
0-4	85.3	86.4	88.6	89.8	91.2	89.8
5-9	100.8	100.4	97.3	97.6	93.0	91.2
10-14	100.5	100.5	98.2	97.7	97.9	96.6
15-19	97.5	99.7	95.0	98.4	100.8	103.6
20-24	101.0	100.7	88.2	92.3	98.4	101.0
25-29	100.7	100.9	88.9	95.3	94.3	97.1
30-34	101.1	100.7	91.9	93.5	93.6	95.8
35-39	100.5	100.6	99.3	96.7	99.2	102.4
40-44	101.0	100.5	94.7	93.6	99.0	99.5
45-49	101.5	100.8	94.5	94.4	104.0	102.8
50-54	99.8	98.2	93.2	94.4	100.0	100.4
55-59	100.1	98.4	91.6	92.7	98.0	98.3
60-64	94.5	93.6	90.2	88.9	97.2	96.8
65-69	94.5	93.6	86.8	88.0	90.5	92.9
70+	94.5	93.6	93.9	101.7	103.2	105.8

Note: The entries here are the reciprocals (expressed as percentages) of the entries of Table 3. Alternatively, they may be obtained by dividing the reported population by the corresponding corrected population in Tables 1 and 2.

The birth registration results are in reasonable agreement with those of the United Nations (1976), U.S. Bureau of the Census (1978), Hill (1979), and others. (See table 7 of Panel on Thailand 1980 for a good summary of estimates of birth registration completeness prior to 1976.) The upward trend, as well as the level, of the estimates of the completeness of birth registration is also consistent with a preliminary birth completeness estimate of about 89 percent for the combined sexes from the first year of the 1984-86 SPC (subject to change).

The death registration results also compare quite well with other estimates. (Again, table 7 of Panel on Thailand 1980 gives a good summary of estimates of death registration completeness.) The results indicate a decrease in death registration completeness during the 1960s and early 1970s and a slight upturn in the late 1970s on the whole—an upturn for males and a leveling off for females (Tables 5 and 6). This trend and the level are consistent with the results of the 1964-67 and 1974-76 SPCs and a preliminary finding of the first year of the 1984-86 SPC, which gives an estimate of about 76 percent completeness for death registration of both sexes combined (subject to change).

Figure 1. Preliminary and final correction factors for males: Thailand, censuses of 1960, 1970, and 1980



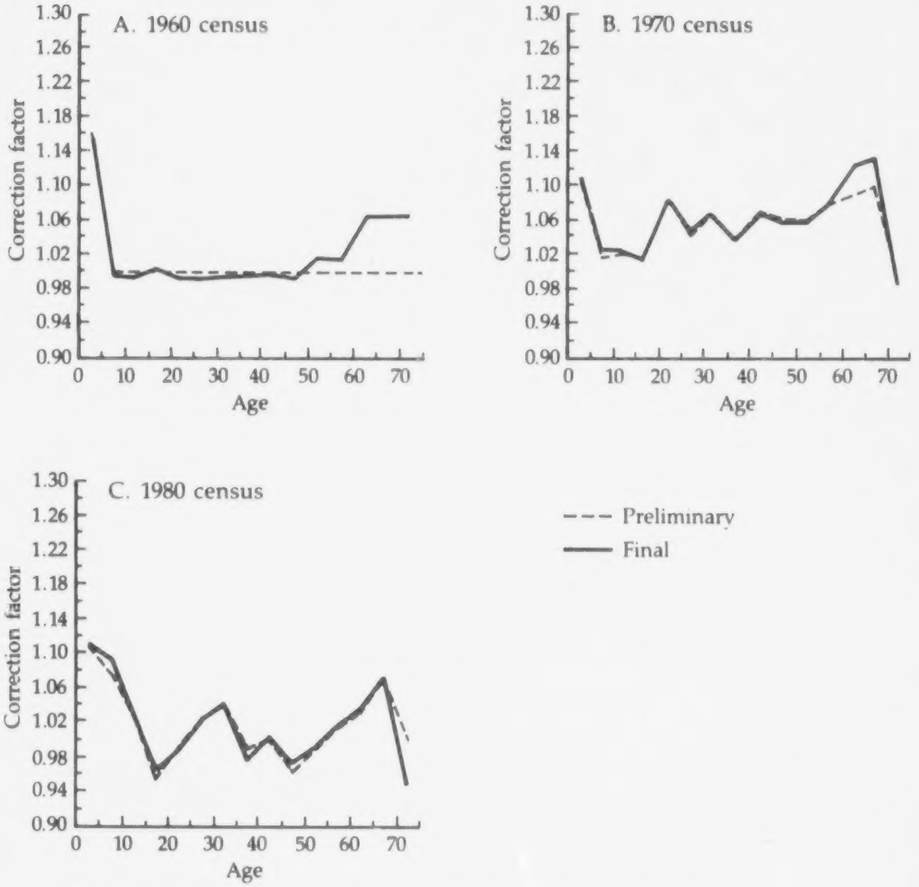
Note: Results are plotted at the midpoints of five-year age groups.

It is not surprising that the results indicate greatest underregistration of deaths at the youngest and oldest ages, and especially at ages 0–4 (Table 8). It is somewhat surprising, however, that death registration completeness at ages 0–4 declined steadily and substantially during the period 1960–80. This trend is present in the preliminary correction factors as well.

Another interesting feature of the results, especially evident from inspection of Figure 3, is the high degree of underregistration of male deaths at ages 20–29 for all five-year intercensal periods. This trend also emerges for females (Figure 4), but only after 1970.

The preliminary and final correction factors for deaths show considerable agreement except at the late ages, as was true for the censuses (Figures 3 and 4). Thus the preliminary correction factors as a whole reflect a considerable degree of consistency, although less so at the late ages.

Figure 2. Preliminary and final correction factors for females: Thailand, censuses of 1960, 1970, and 1980



Note: Results are plotted at the midpoints of five-year age groups.

Life tables

The intercensal life tables for the four five-year intercensal periods, which are derived from the results of the consistent correction procedure, are given in Tables 9 and 10, and the life table death probabilities for the extreme periods 1960–65 and 1975–80 are shown in Figure 5. The life tables are computed directly from corrected deaths and population by age, as detailed in Appendix C where precise formulas are given. The calculations use the estimated midcensus age–sex distributions of Table 11 produced by the consistent correction procedure, which pertain to 1 April 1965 and 1975, and the corrected data given in Tables 1, 2, 5, and 6.

Table 5. Registered and final corrected intercensal births and deaths and estimates of registration completeness for males: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

Births/deaths and age group	1960–65		1965–70		1970–75		1975–80	
	Reported	Corrected	Reported	Corrected	Reported	Corrected	Reported	Corrected
Births	2,630,151	3,194,788	2,944,493	3,562,746	3,050,797	3,628,987	2,811,543	3,318,567
Completeness (%)	82.33		82.65		84.07		84.72	
Deaths								
0–4	224,812	406,581	191,302	419,457	161,667	408,795	114,808	353,137
5–9	33,206	53,298	32,834	56,786	30,189	60,236	26,830	58,212
10–14	17,047	24,933	18,345	27,943	18,979	30,080	18,725	32,687
15–19	15,724	26,229	19,579	31,394	24,350	36,402	28,405	40,395
20–24	17,496	30,348	19,474	34,681	25,213	42,108	34,247	49,555
25–29	17,153	30,488	18,667	30,907	21,261	33,789	28,100	41,822
30–34	18,542	27,638	20,938	30,441	22,404	31,309	25,424	34,895
35–39	20,504	26,835	23,819	28,938	26,012	32,171	28,646	32,365
40–44	21,800	25,428	25,539	30,134	29,430	32,950	34,024	35,861
45–49	25,879	25,898	27,100	28,957	31,377	34,913	37,724	37,489
50–54	29,031	30,362	31,720	32,409	33,649	37,130	39,701	43,501
55–59	30,562	31,804	34,254	35,791	36,937	39,127	39,933	43,506
60–64	32,972	35,689	38,825	40,830	42,805	47,027	47,810	49,641
65–69	29,125	35,765	36,553	44,602	42,954	51,940	47,423	57,736
70+	76,276	106,767	96,868	138,106	116,912	164,488	135,619	182,003
Total	610,129	918,063	635,817	1,011,375	664,139	1,082,462	687,419	1,092,807
Completeness (%)	66.46		62.87		61.35		62.90	

Sources: Registered births: Thailand, National Statistical Office (n.d.: No. 30, 1972–73, table 29, p. 84; n.d.: No. 32, 1976–80, table 23, p. 95; 1982). Registered deaths: Thailand, Ministry of Public Health, Division of Vital Statistics (1962, 1965, 1968, 1972, 1977, 1983).

Table 6. Registered and final corrected intercensal births and deaths and estimates of registration completeness for females: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

Births/deaths and age group	1960–65		1965–70		1970–75		1975–80	
	Reported	Corrected	Reported	Corrected	Reported	Corrected	Reported	Corrected
Births	2,363,132	3,019,648	2,715,779	3,367,435	2,855,596	3,430,045	2,668,218	3,136,641
Completeness (%)	78.26		80.65		83.25		85.07	
Deaths								
0–4	179,043	326,591	156,281	322,376	128,101	299,387	87,644	230,302
5–9	28,697	44,300	28,574	44,230	26,629	43,815	22,848	36,716
10–14	13,666	22,003	14,417	23,249	15,082	23,511	14,225	22,567
15–19	12,699	20,210	14,951	23,460	17,026	25,134	17,742	24,770
20–24	17,128	20,309	16,315	22,608	17,126	26,552	17,607	27,821
25–29	17,818	22,999	16,064	21,149	14,373	23,553	14,539	26,578
30–34	18,996	22,721	18,593	23,368	16,417	21,450	14,281	22,803
35–39	19,399	21,737	20,059	23,332	19,252	24,170	16,822	21,778
40–44	18,638	20,457	19,886	23,534	21,014	25,873	21,218	26,299
45–49	17,435	19,517	19,035	21,216	20,562	24,908	23,301	26,455
50–54	18,896	22,208	21,055	23,738	22,454	26,417	24,628	30,375
55–59	20,050	24,879	22,003	26,519	24,353	28,759	25,672	30,896
60–64	22,149	29,241	27,055	32,896	28,673	35,524	31,768	38,309
65–69	21,484	32,793	26,940	38,687	31,284	43,940	33,738	47,897
70+	80,530	128,951	103,983	155,187	122,355	171,486	140,629	205,244
Total	506.628	778,916	525,211	825,548	524,701	844,480	506,662	818,809
Completeness (%)	65.04		63.62		62.13		61.88	

Sources: Same as Table 5.

Table 7. Final correction factors for registered births and deaths: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

Births/deaths and age group	1960–65		1965–70		1970–75		1975–80	
	Males	Females	Males	Females	Males	Females	Males	Females
Births	1.215	1.278	1.210	1.240	1.190	1.201	1.180	1.176
Deaths								
0–4	1.809	1.824	2.193	2.063	2.529	2.337	3.076	2.628
5–9	1.605	1.544	1.729	1.548	1.995	1.645	2.170	1.607
10–14	1.463	1.610	1.523	1.613	1.585	1.559	1.746	1.586
15–19	1.668	1.591	1.603	1.569	1.495	1.476	1.422	1.396
20–24	1.735	1.186	1.781	1.386	1.670	1.550	1.447	1.580
25–29	1.777	1.291	1.656	1.317	1.589	1.639	1.488	1.828
30–34	1.491	1.196	1.454	1.257	1.397	1.307	1.373	1.597
35–39	1.309	1.121	1.215	1.163	1.237	1.255	1.130	1.295
40–44	1.166	1.098	1.180	1.183	1.120	1.231	1.054	1.239
45–49	1.001	1.119	1.069	1.115	1.113	1.211	.994	1.135
50–54	1.046	1.175	1.022	1.127	1.103	1.177	1.096	1.233
55–59	1.041	1.241	1.045	1.205	1.059	1.181	1.089	1.203
60–64	1.082	1.320	1.052	1.216	1.099	1.239	1.038	1.206
65–69	1.228	1.526	1.220	1.436	1.209	1.405	1.217	1.420
70+	1.400	1.601	1.426	1.492	1.407	1.402	1.342	1.459

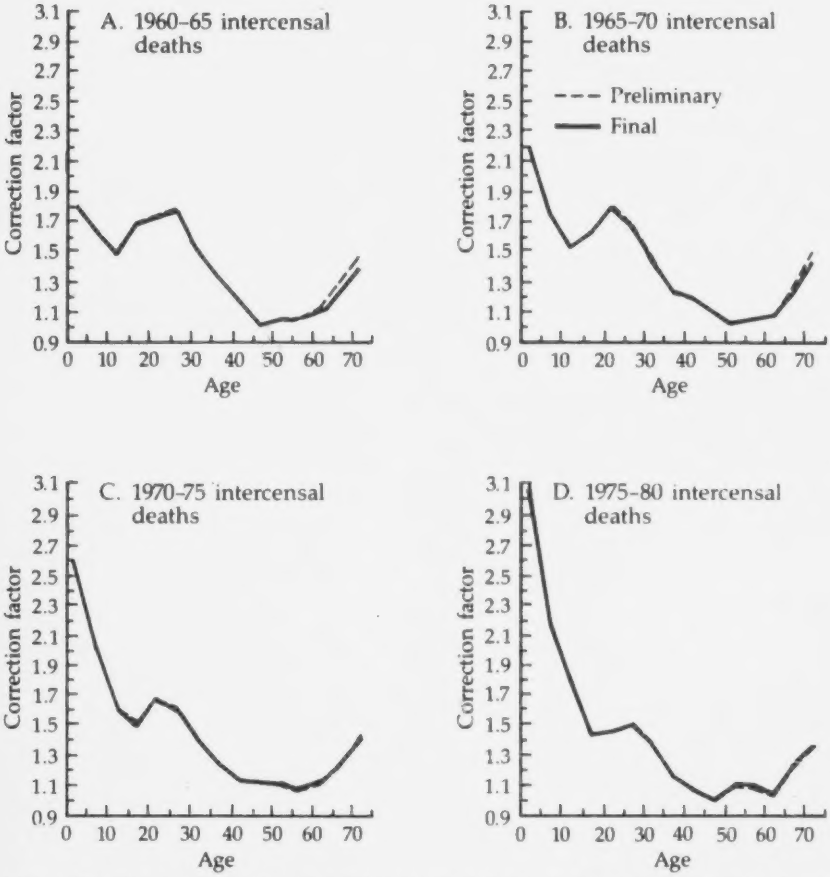
Note: The entries here may be obtained by dividing the corrected births or deaths by the corresponding reported births or deaths in Tables 5 and 6.

Table 8. Completeness estimates (percentages) for death registration: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

	1960–65		1965–70		1970–75		1975–80	
Age group	Males	Females	Males	Females	Males	Females	Males	Females
0–4	55.3	54.8	45.6	48.5	39.5	42.8	32.5	38.1
5–9	62.3	64.8	57.8	64.6	50.1	60.8	46.1	62.2
10–14	68.4	62.1	65.7	62.0	63.1	64.1	57.3	63.1
15–19	60.0	62.9	62.4	63.7	66.9	67.8	70.3	71.6
20–24	57.6	84.3	56.1	72.2	59.9	64.5	69.1	63.3
25–29	56.3	77.5	60.4	75.9	62.9	61.0	67.2	54.7
30–34	67.1	83.6	68.8	79.6	71.6	76.5	72.8	62.6
35–39	76.4	89.2	82.3	86.0	80.8	79.7	88.5	77.2
40–44	85.8	91.1	84.7	84.5	89.3	81.2	94.9	80.7
45–49	99.9	89.4	93.5	89.7	89.8	82.6	100.6	88.1
50–54	95.6	85.1	97.8	88.7	90.7	85.0	91.2	81.1
55–59	96.1	80.6	95.7	83.0	94.4	84.7	91.8	83.1
60–64	92.4	75.8	95.1	82.2	91.0	80.7	96.3	82.9
65–69	81.4	65.5	82.0	69.6	82.7	71.2	82.2	70.4
70+	71.4	62.5	70.1	67.0	71.1	71.3	74.5	68.5

Note: The entries here are the reciprocals (expressed as percentages) of the entries of Table 7. Alternatively, they may be obtained by dividing the reported deaths by the corresponding corrected deaths in Tables 5 and 6.

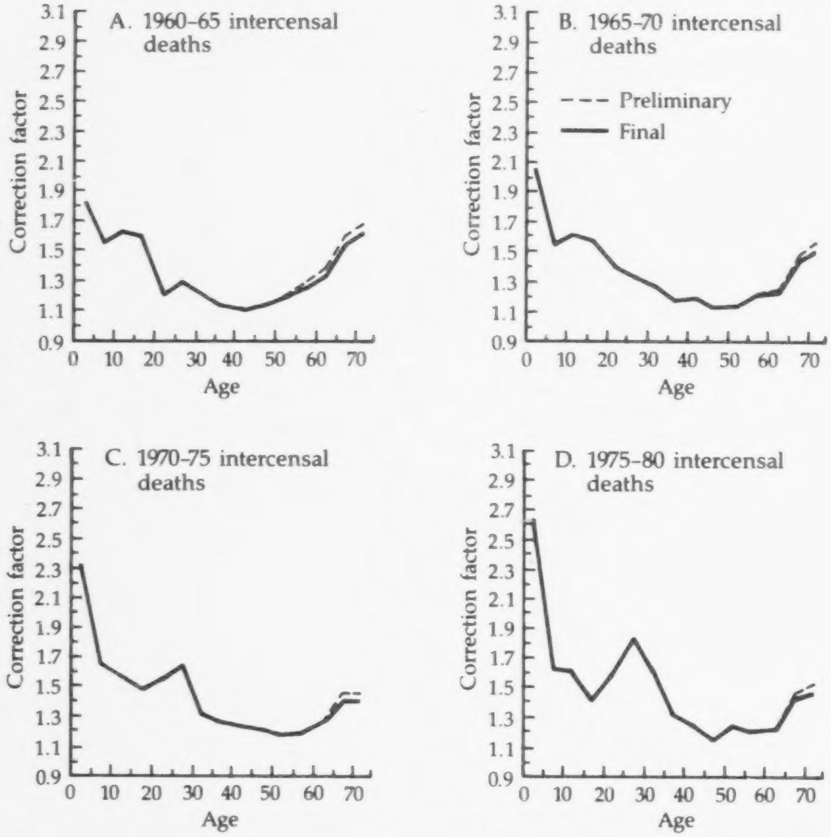
Figure 3. Preliminary and final correction factors for intercensal registered deaths for males: Thailand, 1960-65, 1965-70, 1970-75, and 1975-80



Notes: Results are plotted at the midpoints of five-year age groups. For births, the preliminary and final correction factors are: 1960-65, 1.234 and 1.215; 1965-70, 1.220 and 1.210; 1970-75, 1.199 and 1.190; 1975-80, 1.179 and 1.180.

The life tables generally show mortality improvements with time, as one would expect. The improvements are more substantial for females than males (Figure 5). The improvement in life expectancy is greatest for the youngest age group, in accordance with the pattern in most countries. Both the ${}_5q_0$ estimates, based on marked underregistration of deaths at ages 0-4, and the life expectancy estimates agree quite well with those given by the SPCs for 1964-67 and 1974-76, and by Rungpitarangsi (1974) for 1960 and 1970. Moreover, the widening gap between male and female life expectancies during the period 1960-80 is consistent with the conclusions of Hill (1979:34-35) and the results of the SPCs.

Figure 4. Preliminary and final correction factors for intercensal registered deaths for females: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80



Notes: Results are plotted at the midpoints of five-year age groups. For births, the preliminary and final correction factors are: 1960–65, 1.300 and 1.278; 1965–70, 1.250 and 1.240; 1970–75, 1.211 and 1.201; 1975–80, 1.174 and 1.176.

Finally, comparison of the 1960–65 and 1965–70 male life tables reveals a possible slight anomaly in the results. The T_{70} value decreases a bit whereas the l_{70} value increases. This means that proportionately more people survived to age 70 according to the 1965–70 life table than according to the 1960–65 one, but that the greater number lived fewer person-years thereafter. This reversal may be real. Another possibility is that the SPC life tables do not reflect the mortality experience of males accurately at the oldest ages. This reversal is slight, however, compared with a more pronounced reversal of this same type that results for females when one uses model North life tables rather than the SPC life tables to determine the prelimi-

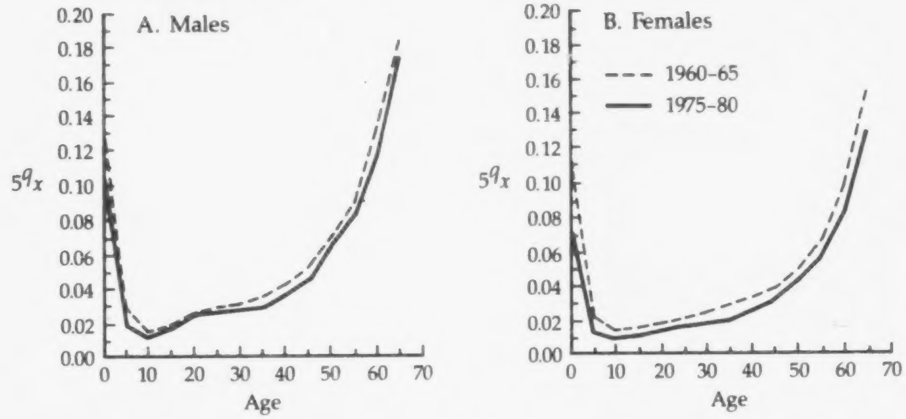


Figure 5. Corrected life table probabilities of dying, ${}_5q_x$: Thailand, 1960–65 and 1975–80

nary correction factors for the 70+ age group. It was primarily on this basis that the SPC life tables were chosen to determine the preliminary correction factors for the 70+ age group.

SUMMARY AND CONCLUSION

This paper has applied a new procedure for the simultaneous and consistent correction of two or more censuses and intercensal registered births and deaths to the three Thai censuses of 1960, 1970, and 1980, and to the registered births and deaths for the intervening period 1960–80. The results reveal marked underenumeration of the 0–4 age group in each census and especially in the 1960 census, in which age rounding was apparently prevalent. There is also an indication of age exaggeration at the oldest ages, at least in the 1970 and 1980 censuses.

The results also indicate that birth registration completeness rose during 1960–80, whereas death registration completeness declined slightly until the early 1970s and then leveled off or began to rise. The greatest underregistration of deaths was at ages 0–4, and the registration completeness for deaths at this age appears to have decreased throughout the period.

Life expectancy rose for both males and females, at an average of about one-fifth year per year for males and two-fifths year per year for females between 1960 and 1980. Thus female superiority in life expectancy increased during the period, from about 4.5 years in 1960–65 to about seven years in 1975–80.

Finally, it should be noted that these results are reasonably consistent with previous estimates. The results of this paper, however, have the advantage of providing consistent corrections for multiple sets of data involving more censuses and intercensal periods than in previous studies.

Table 9. Derived intercensal life tables for males: Thailand, 1960–65,

	1960–65			1965–70		
Age$_x$	${}_5q_x$	l_x	${}_5L_x$	${}_5q_x$	l_x	${}_5L_x$
0	.13134	100,000	450,391	.12092	100,000	453,974
5	.02417	86,866	429,551	.02192	87,908	435,061
10	.01426	84,766	421,154	.01298	85,981	427,369
15	.01850	83,557	414,243	.01821	84,865	420,906
20	.02428	82,012	405,215	.02493	83,319	411,837
25	.02760	80,020	394,964	.02536	81,243	401,200
30	.02932	77,812	383,707	.02832	79,182	390,700
35	.03470	75,530	371,773	.03163	76,939	378,991
40	.04091	72,909	357,698	.04034	74,506	365,798
45	.04945	69,927	341,421	.04861	71,500	349,523
50	.06846	66,469	321,707	.06514	68,024	329,600
55	.08833	61,918	296,902	.08657	63,593	305,116
60	.12764	56,449	265,801	.12435	58,088	273,699
65	.18392	49,244	226,597	.18223	50,865	233,161
70	1.00000	40,187	402,083	1.00000	41,596	388,500
e_0			54.83			55.65

Table 10. Derived intercensal life tables for females: Thailand, 1960–65,

	1960–65			1965–70		
Age$_x$	${}_5q_x$	l_x	${}_5L_x$	${}_5q_x$	l_x	${}_5L_x$
0	.11149	100,000	458,300	.09845	100,000	462,870
5	.02048	88,851	440,093	.01757	90,155	447,079
10	.01283	87,031	432,705	.01097	88,572	440,639
15	.01478	85,915	426,697	.01386	87,600	435,339
20	.01665	84,645	419,739	.01678	86,386	428,649
25	.02065	83,236	412,152	.01764	84,937	420,975
30	.02405	81,518	403,078	.02141	83,438	413,010
35	.02858	79,557	392,721	.02530	81,652	403,513
40	.03328	77,283	380,483	.03184	79,586	392,296
45	.03766	74,711	366,947	.03572	77,052	378,913
50	.04953	71,898	350,999	.04761	74,299	363,195
55	.06658	68,336	331,241	.06224	70,761	343,319
60	.09863	63,786	304,460	.09428	66,357	317,479
65	.15376	57,495	268,423	.14460	60,101	280,542
70	1.00000	48,654	538,142	1.00000	51,411	559,210
e_0			59.26			60.87

1965-70, 1970-75, and 1975-80

	1970-75			1975-80		
Age$_x$	$_5q_x$	l_x	$_5L_x$	$_5q_x$	l_x	$_5L_x$
0	.11320	100,000	455,822	.10458	100,000	458,119
5	.02039	88,680	439,156	.01826	89,542	443,680
10	.01187	86,872	431,966	.01129	87,907	437,209
15	.01713	85,841	425,865	.01613	86,915	431,320
20	.02488	84,371	417,213	.02372	85,513	422,960
25	.02492	82,272	406,660	.02533	83,485	412,752
30	.02637	80,221	395,959	.02642	81,370	401,925
35	.03079	78,106	384,948	.02802	79,221	390,702
40	.03720	75,701	371,905	.03540	77,001	378,691
45	.04867	72,885	356,495	.04397	74,275	363,731
50	.06556	69,338	336,258	.06369	71,009	344,967
55	.08420	64,792	311,000	.08230	66,486	319,893
60	.12437	59,337	279,474	.11683	61,014	288,159
65	.18057	51,957	238,038	.17419	53,886	247,646
70	1.00000	42,575	403,076	1.00000	44,499	464,938
e_0			56.54			58.07

1965-70, 1970-75, 1975-80

	1970-75			1975-80		
Age$_x$	$_5q_x$	l_x	$_5L_x$	$_5q_x$	l_x	$_5L_x$
0	.08777	100,000	465,904	.07226	100,000	470,985
5	.01531	91,223	452,843	.01186	92,774	461,165
10	.00950	89,826	447,141	.00801	91,674	456,653
15	.01199	88,973	442,430	.01011	90,940	452,559
20	.01590	87,906	436,469	.01343	90,021	447349
25	.01778	86,509	429,060	.01617	88,812	440,920
30	.01823	84,970	421,016	.01754	87,376	433,416
35	.02262	83,421	412,696	.01887	85,844	425,213
40	.02878	81,534	402,287	.02517	84,224	416,178
45	.03480	79,187	389,823	.03029	82,104	404,827
50	.04616	76,432	374,032	.04395	79,617	390,341
55	.06060	72,904	354,164	.05666	76,118	370,668
60	.08893	68,486	327,937	.08596	71,805	344,588
65	.13898	62,396	292,240	.13159	65,633	307,631
70	1.00000	53,724	643,952	1.00000	56,996	701,129
e_0			62.92			65.24

Table 11. Estimated midcensus age distributions for males and females: Thailand, 1965 and 1975 (1 April)

	1965		1975	
Age	Males	Females	Males	Females
0-4	2,877,805	2,767,810	3,308,346	3,196,146
5-9	2,396,066	2,342,268	3,116,518	3,029,976
10-14	1,961,963	1,941,655	2,712,754	2,639,719
15-19	1,533,324	1,498,930	2,320,461	2,284,206
20-24	1,269,707	1,222,129	1,893,040	1,892,458
25-29	1,172,027	1,176,440	1,462,338	1,450,844
30-34	990,641	1,015,443	1,204,364	1,177,749
35-39	848,454	842,905	1,109,613	1,131,371
40-44	664,088	655,904	928,391	967,072
45-49	538,282	541,848	784,987	794,082
50-54	459,053	459,164	598,521	607,866
55-59	372,054	394,707	469,471	491,783
60-64	288,405	307,633	381,876	401,894
65-69	206,500	231,028	284,260	325,268
70+	221,184	291,397	322,508	426,281
Total	15,799,553	15,689,261	20,897,448	20,816,715

Note: These are the estimated midcensus age-sex distributions given by the consistent correction procedure.

APPENDIX A. DERIVATION OF THE PRELIMINARY CORRECTION FACTORS

Births

A linear increase was assumed in the birth registration completeness of both sexes combined, from 78 percent on 1 April 1960 to 86 percent on 1 April 1980. This agrees quite well with the estimates of the U.S. Bureau of the Census (1978) and Hill (1979). We should note that the latter estimates are based on the Ministry of Public Health (MOPH) registration figures, whereas ours are based on the Ministry of Interior (MOI) figures, which are larger in most years; see the corrigenda sheet of Hill (1979) for a comparison of these figures through 1974. A sex ratio at birth of 1.058 for each five-year intercensal period was also used to help calculate the preliminary correction factors for births by sex.

From this assumption regarding birth registration completeness, it follows that the average birth registration completeness for the combined sexes was 79, 81, 83, and 85 percent for the successive five-year intercensal periods. The calculation of the preliminary correction factors for male and female births for the first five-year intercensal period will be shown in detail for illustrative purposes.

Let k_m and k_f be the preliminary correction factors for numbers of male and female registered births B_m and B_f respectively for the five-year period. Then k_mB_m and k_fB_f denote the estimated true numbers of male and female births. Assuming a 1.058 sex ratio at birth, one has

$$k_mB_m = 1.058k_fB_f \qquad (1)$$

Assuming, moreover, 79 percent birth registration completeness for 1960–65, one may equate two different expressions of the true number of births for the combined sexes as follows:

$$k_mB_m + k_fB_f = (B_m + B_f)/(.79) \qquad (2)$$

Since $B_m = 2{,}630{,}151$ and $B_f = 2{,}363{,}132$ are known, they may be substituted into equations (1) and (2). These equations then represent a system of two linear equations in the two unknowns, k_m and k_f, which may be solved simultaneously to yield the values of k_m and k_f.

The same process may be used to find the preliminary correction factors for registered births for the other five-year intercensal periods. The values obtained for the successive periods are 1.234, 1.220, 1.199, and 1.179 for males and 1.300, 1.250, 1.211, and 1.174 for females. They are recorded in Appendix Table B.5.

Censuses

The preliminary correction factors for censuses are derived directly from the following corrected census age-sex distributions obtained from outside sources: (1) For the 1960 census, the correction given in United Nations (1966); (2) for the 1970 census, the correction of the 0-4 and 5-9 age groups in Arnold and Phananiramai (1975), and of the other age groups in Fulton (1979); and (3) for the 1980 census, the correction given by Pejaranonda, Arnold, and Hauser (1983). We use the final census report (Thailand, National Statistical Office 1983) rather than the Advance Report (Thailand, National Statistical Office 1981) for the corrected female 1980 census population age 70+: 552,900 rather than 562,900. These "preliminarily corrected" census age-sex distributions are recorded in Appendix Table B.1; and the resulting preliminary correction factors, obtained by dividing these preliminarily corrected populations by the corresponding reported populations from Tables 1 and 2, are given in Appendix Table B.2.

A certain amount of consistency is built into the preliminary correction factors for censuses by the use of the census corrections above, each of which is derived in part from the preceding census correction. However, the preliminary correction factors for births are derived independently; and to an extent, the same may be said for the preliminary correction factors for deaths (see below).

As with Pejaranonda, Arnold, and Hauser (1983), we have opted for the Fulton (1979) corrections of the 1970 census age-sex distributions rather than those of Arnold and Phananiramai (1975). The preliminarily corrected census age-sex distributions of Appendix Table B.1, which have been used for deriving the preliminary correction factors for censuses, are used to calculate total population preliminary correction factors for each sex at each census. The reciprocals of these factors in turn yield census underenumeration estimates by sex for each census. The total population preliminary correction factors are given in the last row of Appendix Table B.2.

The reported census age-sex distributions (given in Tables 1 and 2) are uniformly premultiplied by these total population preliminary correction factors of Appendix Table B.2 before being put into the computer. For example, each female five-year age group is premultiplied by 1.051 for the 1970 census and by 1.025 for the 1980 census. To compensate, each preliminary correction factor given in Appendix Table B.2 must be divided accordingly before it is put into the computer. This will insure that each input census age-sex group population multiplied by the corresponding input preliminary correction factor still yields the preliminarily corrected census age-sex group population of Appendix Table B.1. Thus, for example, each preliminary correction factor for females must be divided by 1.051 for the 1970 census, and by 1.025 for the 1980 census, before being put into the computer. In particular, the input preliminary correction factors for females of ages 0–4 for the 1970 and 1980 censuses are 1.104/1.051 = 1.050 and 1.110/1.025 = 1.083 respectively. These adjustments of the reported census age–sex distributions, as well as of the preliminary correction factors for the censuses, must be put into the computer program to get appropriate census underenumeration levels in the final results (output). This is true because the computer program is written so that for the last census (the 1980 one in our case), there is equality between the total input population for both sexes combined and the total output (corrected) population for both sexes combined. This equality was incorporated into the computer program to obtain more control over the census underenumeration levels in the final results.

Finally, except for the 0–4 age group, in which underenumeration is very evident because of age rounding (see section on principal findings), all preliminary correction factors for both sexes for the 1960 census were chosen to be 1, on the basis of United Nations (1966). First of all, the opposing effects of age rounding partially compensate in all age groups except 0–4 and 70+, and the effect is relatively small on the 70+ age group. Second, other than for the 0–4 age group, the 1960 census count appears to be fairly complete and accurate by five-year age groups (United Nations 1966). Moreover, this choice was made simply for lack of better evidence.

Deaths

Coale–Demeny model North life tables were used to determine the preliminary correction factors for deaths for all age groups below 70. The levels used were based on the e_0 values of the 1964–67 and 1974–76 SPC life tables, as described in the section on application of our method to Thailand, 1960–80. The life tables corresponding to these levels for males and females are given in Appendix Tables B.3 and B.4 respectively.

For the 70+ age group the SPC life tables were used rather than model tables. That is, the preliminary correction factors for deaths for the 70+ age group were derived from life tables obtained from the SPC life tables by an interpolation process described in the section on application of the method.

The 1960–65 and 1970–75 preliminary correction factors for deaths were derived from the life tables by a forward survival method involving the 1960 and 1970 preliminarily corrected census age–sex distributions. Similarly, the 1965–70 and 1975–80 factors were derived by a reverse survival method involving the 1970 and 1980 preliminarily corrected census age–sex distributions. The preliminarily corrected census age–sex distributions are given in Appendix Table B.1, and the preliminary correction factors for deaths are given in Appendix Table B.5.

More precisely, the forward survival formula used for the periods 1960–65 and 1970–75 to calculate the preliminary correction factor for deaths (h_a) at age a to $a + 5$ is

$$h_a = \left(P_{a-5} \cdot \frac{5l_a}{{}_5L_{a-5}}\right)\left(\frac{l_a - l_{a+5}}{l_a}\right)\Big/ D_a$$

$$= \frac{5(l_a - l_{a+5})P_{a-5}}{{}_5L_{a-5}\; D_a} \qquad (3)$$

where l_a denotes life table survivors at exact age a; ${}_5L_a$ denotes life table person-years lived between exact ages a and $a + 5$; D_a denotes the number of registered deaths of age a to $a + 5$ for the period; and P_a denotes the preliminarily corrected population of the age group a to $a + 5$ for the census immediately preceding the period in question (the 1960 census for the period 1960–65 and the 1970 census for the period 1970–75).

The rationale behind formula (3) is as follows. In the first line of formula (3), the first factor in the numerator gives the number of those age $a - 5$ to a in the preliminarily corrected census population at the beginning of the period who have survived to attain age a during the period, based on the life table used for the period. The second factor in the numerator is the life table probability of dying between age a and $a + 5$ for the period. Thus the numerator, which is the product of these two factors, gives an estimate of the true number of deaths between ages a and $a + 5$ for the period. When divided by D_a, the registered number of deaths between ages a and $a + 5$ for the period, this yields the estimated (preliminary) correction factor for deaths for this age group.

Similarly, the reverse survival formula used for the periods 1965–70 and 1975–80 is

$$h_a = \left(P_a \cdot \frac{5l_a}{{}_5L_a}\right)\left(\frac{l_a - l_{a+5}}{l_a}\right)\Big/ D_a$$

$$= \frac{5(l_a - l_{a+5})P_a}{{}_5L_a D_a} \qquad (4)$$

where the notation is as above except that P_a is the preliminarily corrected population of the age group a to $a + 5$ for the census immediately following the period in question.

Formula (4) is the same as formula (3) except for the first factor in the numerator. In both formulas, this first factor estimates the true number of people who have attained age a during the period. In formula (4), the number who have attained age a during the period is obtained by reverse survival of those aged a to $a + 5$ in the preliminarily corrected census population at the end of the period rather than by forward survival of those aged $a - 5$ to a in the preliminarily corrected census population at the beginning of the period, as in formula (3).

Clearly the forward survival formula for 1960–65 and 1970–75 is not applicable for the age group 0–4. However, its natural analogue is

$$h_0 = \frac{(l_0 - l_5)B}{l_0 D_0} \tag{5}$$

where B denotes the estimated true number of births for the period and the other notation is as before. Equation (5) is used to determine the preliminary correction factor for deaths at ages 0–4. B is obtained by using the preliminary correction factors for births determined above to estimate the true number of births. For example, the preliminary correction factor for deaths for females of ages 0–4 for the period 1960–65, given in Appendix Table B.5, is

$$h_0 = \frac{(100{,}000 - 89{,}462)\ (1.300)\ (2{,}363{,}132)}{(100{,}000)\ (179{,}043)} = 1.808$$

Here, 89,462 is the l_5 value from the Coale-Demeny model North level 17.0 female life table.

Special formulas are needed also for the preliminary correction factor for deaths for the 70+ age group. The approximate reverse survival formula that is used may be obtained from equation (4) by letting $a = 70$ and $a + 5$ be an age beyond which anyone lives. Hence it is the same as equation (4) with $a = 70$; l_{a+5} set equal to 0; P_a and D_a replaced by the preliminarily corrected census population P_{70+} and registered deaths D_{70+} respectively; and ${}_5L_a$ replaced by T_{70}, the life table person-years lived above age 70. Thus

$$h_{70} = \frac{5 l_{70}\ P_{70+}}{T_{70}\ D_{70+}} \tag{6}$$

As before, P_{70+} refers to the census immediately following the period in question.

For example, the value of h_{70} for males for the period 1965–70 is

$$h_{70} = \frac{5(43{,}881)\ (280{,}900)}{(428{,}383)\ (96{,}868)} = 1.485$$

(Recall that the interpolated SPC life tables are used for the 70+ age group.)

If census and death registration data and SPC life tables for five-year age groups beyond age 70 are available, as is true for some periods, one may use a more precise formula than equation (6) for h_{70}. This formula would consist of a sum with terms like equation (4) for the five-year age groups and equation (6) for the open-ended age group. However, it was found that this more cumbersome formula yielded correction factors that differed little from those given by formula (6).

The reverse survival equation (6) was used to determine h_{70} not only for the periods 1965–70 and 1975–80, but also for the periods 1960–65 and 1970–75 after forward surviving the age group 65+ preliminarily corrected population of the 1960 and 1970 censuses to 1965 and 1975 respectively. It can be shown that the same result is obtained by using the forward survival formula

$$h_{70} = \frac{5l_{70}\, P_{65+}}{T_{65}\, D_{70+}}$$

where P_{65+} is the preliminarily corrected population of the age group 65+ for the census immediately preceding the period in question.

APPENDIX B. TABLES

Table B.1. Preliminarily corrected census age–sex distributions: Thailand, 1960, 1970, and 1980

	1960		1970		1980	
Age group	Males	Females	Males	Females	Males	Females
0–4	2,517,000	2,448,000	3,219,100	3,090,100	3,074,700	2,945,500
5–9	2,016,300	1,982,900	2,725,400	2,644,500	3,208,900	3,083,900
10–14	1,565,900	1,527,800	2,350,100	2,300,700	3,103,700	2,975,700
15–19	1,265,200	1,238,200	1,904,900	1,919,400	2,672,900	2,587,500
20–24	1,214,400	1,206,000	1,475,000	1,480,000	2,283,800	2,265,600
25–29	1,026,700	1,048,100	1,263,200	1,192,300	1,866,600	1,862,800
30–34	885,700	871,200	1,147,400	1,153,900	1,447,200	1,421,600
35–39	693,400	681,000	965,700	996,200	1,178,700	1,172,900
40–44	569,700	564,700	826,100	821,400	1,063,100	1,105,100
45–49	494,700	483,700	637,800	635,800	884,600	931,100
50–54	402,400	411,000	512,500	519,800	732,200	761,100
55–59	322,300	329,600	430,200	434,600	552,100	573,900
60–64	229,000	245,400	332,400	353,900	416,400	456,400
65–69	149,300	163,900	244,400	263,200	321,100	357,400
70+	177,700	245,100	280,900	354,000	400,100	552,900
Total	13,529,700	13,446,600	18,315,100	18,159,800	23,206,100	23,053,400

Sources: For 1960: United Nations (1966). For 1970: Arnold and Phananiramai (1975: table 11), for ages 0–4 and 5–9; Fulton (1979: tables 17, 18), for ages 10+. For 1980: Pejaranonda, Arnold, and Hauser (1983: table 11).

Table B.2 Preliminary correction factors: Thailand, censuses of 1960, 1970, and 1980

	1960		1970		1980	
Age group	Males	Females	Males	Females	Males	Females
0–4	1.175	1.163	1.123	1.104	1.109	1.110
5–9	1.000	1.000	1.016	1.014	1.077	1.080
10–14	1.000	1.000	1.016	1.020	1.032	1.027
15–19	1.000	1.000	1.038	1.017	.991	.954
20–24	1.000	1.000	1.115	1.085	1.020	.993
25–29	1.000	1.000	1.149	1.041	1.071	1.029
30–34	1.000	1.000	1.094	1.070	1.086	1.041
35–39	1.000	1.000	1.012	1.039	1.015	.991
40–44	1.000	1.000	1.066	1.071	.999	1.002
45–49	1.000	1.000	1.063	1.063	.954	.963
50–54	1.000	1.000	1.084	1.060	.983	.990
55–59	1.000	1.000	1.106	1.080	1.015	1.011
60–64	1.000	1.000	1.104	1.090	1.012	1.031
65–69	1.000	1.000	1.146	1.100	1.082	1.072
70+	1.000	1.000	1.119	1.000	.979	1.000
Totals	1.029	1.026	1.070	1.051	1.039	1.025

Note: The preliminary correction factors for censuses are calculated by sex and age group by dividing the corrected populations of Table B.1 by the corresponding reported populations given in Tables 1 and 2.

Table B.3. Coale-Demeny model North life tables for determining preliminary correction factors for registered deaths for males: Thailand, 1960-65, 1965-70, 1970-75, and 1975-80

	1960-65		1965-70		1970-75		1975-80	
Age$_x$	l_x	$_5L_x$	l_x	$_5L_x$	l_x	$_5L_x$	l_x	$_5L_x$
0	100,000	451,433	100,000	453,753	100,000	456,072	100,000	458,392
5	87,541	432,926	88,170	436,320	88,799	439,715	89,428	443,109
10	85,630	425,476	86,358	429,240	87,087	433,005	87,815	436,769
15	84,561	419,212	85,338	423,207	86,115	427,201	86,892	431,197
20	83,124	410,557	83,945	414,811	84,766	419,065	85,587	423,319
25	81,099	400,354	81,979	404,908	82,860	409,461	83,740	414,015
30	79,043	389,843	79,984	394,698	80,925	399,553	81,866	404,408
35	76,895	378,588	77,896	383,754	78,897	388,921	79,898	394,087
40	74,541	365,789	75,607	371,291	76,672	376,793	77,738	382,295
45	71,774	350,638	72,910	356,490	74,045	362,341	75,181	368,193
50	68,480	331,681	69,686	337,847	70,891	344,013	72,097	350,179
55	64,192	307,805	65,453	314,239	66,714	320,672	67,975	327,106
60	58,931	277,125	60,243	283,736	61,555	290,347	62,867	296,958
65	51,919	236,908	53,251	243,480	54,583	250,051	55,915	256,623
70	42,844	412,342	44,141	429,776	45,438	447,210	46,735	464,644

Note: Model North male life table levels are 16.825, 17.175, 17.525, and 17.875 for 1960-65, 1965-70, 1970-75, and 1975-80 respectively. SPC male life tables for 1964-67 and 1974-76, linearly interpolated, were used to determine preliminary correction factors for registered deaths for the age group 70+ for each five-year intercensal period.

Source: Coale and Demeny (1966).

Table B.4. Coale–Demeny model North life tables for determining preliminary correction factors for registered deaths for females: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

	1960–65		1965–70		1970–75		1975–80	
Age$_x$	l_x	$_5L_x$	l_x	$_5L_x$	l_x	$_5L_x$	l_x	$_5L_x$
0	100,000	459,370	100,000	462,864	100,000	466,359	100,000	470,935
5	89,462	443,154	90,425	448,401	91,388	453,648	92,645	460,502
10	87,800	436,542	88,936	442,444	90,072	448,346	91,556	456,060
15	86,817	431,191	88,042	437,535	89,267	443,879	90,868	452,179
20	85,660	424,759	86,973	431,559	88,286	438,360	90,004	447,268
25	84,244	417,186	85,652	424,489	87,059	431,792	88,904	441,372
30	82,630	408,648	84,144	416,517	85,658	424,386	87,645	434,726
35	80,829	399,064	82,463	407,560	84,097	416,057	86,245	427,241
40	78,797	388,007	80,562	397,135	82,327	406,262	84,651	418,301
45	76,406	375,343	78,292	385,051	80,179	394,759	82,669	407,593
50	73,732	359,985	75,729	370,217	77,726	380,449	80,368	394,013
55	70,263	340,249	72,359	351,013	74,455	361,776	77,237	376,091
60	65,837	313,593	68,047	324,895	70,256	336,198	73,199	351,290
65	59,600	276,099	61,912	287,767	64,223	299,435	67,317	315,098
70	50,839	526,812	53,195	562,554	55,551	598,297	58,722	647,334

Note: Model North female life table levels are 17.0, 17.6, 18.2 and 19.0 for 1960–65, 1965–70, 1970–75, and 1975–80 respectively. SPC female life tables for 1964–67 and 1974–76, linearly interpolated, were used to determine the preliminary correction factors for registered deaths for the age group 70+ for each five-year intercensal period.

Source: Same as Table B.3.

Table B.5. Preliminary correction factors for registered births and deaths: Thailand, 1960–65, 1965–70, 1970–75, and 1975–80

Births/deaths and age group	1960–65		1965–70		1970–75		1975–80	
	Males	Females	Males	Females	Males	Females	Males	Females
Births	1.234	1.300	1.220	1.250	1.199	1.211	1.179	1.174
Deaths								
0–4	1.799	1.808	2.194	2.045	2.534	2.325	3.088	2.624
5–9	1.604	1.543	1.724	1.537	2.001	1.637	2.177	1.596
10–14	1.460	1.609	1.522	1.612	1.587	1.556	1.751	1.578
15–19	1.682	1.594	1.601	1.568	1.503	1.478	1.424	1.393
20–24	1.746	1.187	1.795	1.388	1.685	1.549	1.455	1.582
25–29	1.773	1.286	1.667	1.318	1.602	1.645	1.503	1.827
30–34	1.485	1.191	1.449	1.252	1.396	1.313	1.385	1.603
35–39	1.304	1.117	1.209	1.158	1.228	1.250	1.128	1.301
40–44	1.162	1.095	1.175	1.180	1.108	1.224	1.045	1.234
45–49	.991	1.116	1.064	1.112	1.102	1.206	.982	1.128
50–54	1.042	1.183	1.012	1.124	1.093	1.173	1.085	1.228
55–59	1.044	1.260	1.041	1.213	1.040	1.178	1.079	1.200
60–64	1.113	1.364	1.055	1.235	1.092	1.264	1.019	1.203
65–69	1.287	1.596	1.251	1.480	1.219	1.459	1.211	1.445
70+	1.459	1.671	1.485	1.562	1.417	1.456	1.352	1.514

Note: Preliminary correction factors for registered births and deaths are determined as described in Appendix A.

APPENDIX C. FORMULAS FOR DERIVING THE LIFE TABLES

The following formulas were used to calculate the intercensal abridged life table for five-year age groups for the five-year period beginning 1 April of the year 1960 + 5(i–1) (i = 1,2,3,4):

$$ {}_5\mathrm{L}_0 = (P_{i+1,0}/B)(5l_0) $$

$$ {}_5L_{a+5} = {}_5L_a(P_{i+1,a+5}/P_{i,a}) $$

$$ T_{75} = ({}_5L_{70}\ P_{i+1,75+})/(P_{i,70+} - P_{i+1,75+}) $$

where ${}_5L_a$ = life table person-years lived between ages a and $a + 5$; T_{75} = person-years lived after age 75; $P_{i,a}$ = corrected age a to $a + 5$ population on 1 April of the year 1960 + 5(i–1), i = 1,2,3,4,5 (see Tables 1, 2, and 11); B = corrected births in the five-year period; and l_a = life table survivors at exact age a. The second of these three formulas was applied iteratively.

All three formulas result from equating the survival ratios of the life table to those of the corrected data. In particular, the third is obtained by solving for T_{75} in

$$ T_{75}/({}_5L_{70} + T_{75}) = P_{i+1,75+}/P_{i,70+} $$

which equates the survival ratio of the life table with that of the corrected data for the open-ended age group.

Then

$$ l_{a+5} = ({}_5L_a/5)(1 - D_a^*/P_{i,a}) $$

where D_a^* denotes the corrected number of deaths during the five-year period occurring before exact age $a + 5$ to those aged a to $a + 5$ at the beginning of the period.

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ABSTRACT This paper presents age-specific and marriage duration-specific fertility rates for Mainland China and each of twenty-eight provinces, and within each province for total urban, and rural populations, during the period 1940-82. The rates were tabulated from data obtained by China's One per Thousand Sample Fertility Survey, conducted by the State Family Planning Commission in 1982. The basic tables supplement the history of fertility change in China as a whole already revealed in the report of the survey published by the Chinese government in 1983. The additional information on marital fertility illustrates the substantial effect of changes in nuptiality on the course of total fertility in China. The provincial data show the geographical diversity of fertility from the earliest years to 1982. This fundamental information about China's population will be useful to students of the Chinese society, both within China and elsewhere.

PART I. CHANGES IN FERTILITY, 1940-82

Because China's population is the world's largest, and because fertility and mortality have changed dramatically since the People's Republic was founded, there is special interest in demographic information about China. Much detailed and accurate information has been published in reports on the census taken in 1982 and on the censuses of 1953 and 1964 belatedly released in 1983. An invaluable additional source of information is the very large, One per Thousand Sample Fertility Survey conducted in 1982 by the State Family Planning Commission. Published reports on the survey provide a remarkably complete and detailed record of fertility in China since the 1940s.

In the sample fertility survey, all women 15 to 67 years of age in sampled households were interviewed. The households contained a total population of more than one million persons. The survey questionnaire asked for the birth date of the respondent, the date of her first marriage, the date of every birth she had experienced, the sex of each child born, whether the child had survived to the time of the survey, the education and occupation of the respondent, and her current contraceptive practice. The survey is exceptional because of its very large sample, the care with which it was conducted, and the accuracy of the dates of births and marriages reported by the respondents. Results of extensive analysis of the survey for China as a whole were published in 1983 in a special issue of the journal *Population and Economy,* and in 1984 in English translation (*Analysis on China's National One-per-Thousand Population Fertility Sampling Survey*) by the China Population Information Centre. The English version of the report is 182 pages long and contains many detailed tables and charts. Among other details, it lists first-marriage rates and rates of childbearing, by single years of age for the rural, urban, and total populations of China for each year from 1950 to 1981, with supplementary data and estimates for the 1940s.

During the summer of 1985, tapes containing the complete original data from this survey for each of twenty-eight provinces (all of the provinces in Mainland China except Tibet, Province 24) were analyzed on the computer at the East-West Population Institute in Honolulu in a collaborative enterprise involving experts from the State Family Planning Commission and staff and consultants at the Population Institute.

The data on these tapes are an extraordinary resource. Because the sample is so large, many forms of detailed analysis are feasible. An example, presented here, is the calculation of fertility rates since 1940 for each province. Because there are 311,000 respondents, the average number per province—over 11,000—exceeds the number in most national surveys of fertility.

Age-specific and duration-specific fertility rates for twenty-eight provinces

Part II of this paper contains 166 tables, six for each of twenty-six provinces, two each for two provinces in which the urban sample is exceptionally small, and six for China as a whole. The tables present fertility rates for women at each five-year age interval from 15–19 to 45–49 years of age for each year from 1940 to 1982. Fertility rates for ever-married women at each five-year interval of duration since first marriage from 0–4 to 30–34 years are also presented for the period from 1940 to 1982. For each province (except Qinghai and Ningxia, where the urban samples are so small that the annual rates are extremely erratic), separate tables have been prepared for the urban, rural, and total populations.

Total fertility rates by age and duration since first marriage

Each table of age-specific or duration-specific fertility rates also contains a column of total fertility rates: total age-specific rates (TAFRs) and total duration-specific rates (TDFRs). These totals, which are the sum of the single-year (of age or duration) rates, or five times the sum of the rates by five-year intervals, show how many children would be born per woman in a hypothetical population subject to the rates that occurred during the year in question. The TAFR shows the average number of lifetime births for all women subject to that year's fertility rates by age; the TDFR shows the average number of lifetime births for ever-married women subject to that year's marital fertility rates at each duration since first marriage. The total age-specific fertility rate is a measure of the total fertility of all women, whereas the total duration-specific fertility rate is a measure of the total fertility of ever-married women; the two rates are linked by the recent history of total first-marriage rates.

In China in a cohort of women (i.e., women born in the same year, for example those who were 50 years old in 1982), TAFR and TDFR are almost exactly equal because the proportion ever married by age 35 is greater than 99 percent, negligibly different from 1.0. On the assumption that all women marry, the number of children they will have borne by age 50 (5.62 for women in China who reached age 50 in 1982) is the total of the age-specific rates for that cohort, and also the sum of the duration-specific rates to which those women have been subject since first marriage. The two totals are the same because each represents the average number of children ever born to the same women.

Mean age at first marriage in China rose from a little more than 18 years in the 1940s to about 23 years in the late 1970s. The increase in age at first marriage occurred without any change in the universality of marriage for women in China. The proportion remaining single among respondents in the survey was less than 1.0 percent at every age above 30.

The total first-marriage rate (TMR) is analogous to the total fertility rate. It equals the proportion ever married at the highest age of first marriage that would be produced in a hypothetical cohort experiencing the rate of first marriage at each age in a given year. The total first-marriage rate for *birth cohorts* in China is very near 1.0, but the TMR for individual *calendar years* differs, sometimes by a large margin, from 1.0. A crisis can cause many potential marriages to be postponed, and postponed marriages can be crowded into the year after the crisis, so that the TMR falls well below 1.0, and then rises well above 1.0. A second factor causing TMRs different from 1.0 in China is a change in the mean age at marriage. Even when all women in every birth cohort ultimately marry, an increase in age at marriage reduces the annual TMR below 1.0. To see how such a reduction in TMR is brought about, consider a hypothetical population in which all marriages occur (hypothetically mandated by law) at exact age 22. Suppose a new law increases the required exact age at marriage to exact age 23. All women initially marry at 22; under the new regime all marry at 23. In the year of the new edict, there are no marriages. The women who would have married at 22 do not; those who attain their twenty-second birthday wait one year until reaching 23 before marrying. Cohort TMR remains at 1.0, but the TMR for one year drops to zero. A real increase by one year in the mean age at first marriage has an effect related to this unrealistic example, since a real increase also causes the loss of one year's normal number of marriages, but over a span of several years, rather than abruptly as in the example.

Mean age at first marriage rose from 18.21 in 1940 to 23.12 in 1979. The result was an average TMR of only 0.882 during 1940–79, despite the continued universality of first marriage. According to a formula suggested by Norman Ryder, TMR for a period of years approximately equals cohort TMR multiplied by 1.0 minus the annual rate of change in the mean age at first marriage. The recorded increase in mean age at first marriage is 4.91 years in thirty-nine years, or an average increase of 0.126 years per year. The average TMR during the period 1940–79 should be, by this approximation, 0.874, quite close to the actual 0.882.

The reduction in the number of marriages caused by increasing age at marriage has no immediate effect on marital fertility at each duration of marriage. Women married at 23 instead of 22 bear about the same number of children in the early years after marriage. A rise in age at marriage does reduce the number of married women at early durations, however, and does reduce age-specific fertility rates at the ages at which married women in early durations of marriage are found.

It can be proven that, if duration-specific fertility rates are adjusted by multiplying the duration-specific rate at each duration *d* by the total first-marriage rate *d* years earlier, the sum of the adjusted duration-specific rates equals (within a margin of 2 or 3 percent) the sum of the age-specific rates. If age at marriage had been constant in China, the total first-marriage rate would have been close to 1.0 and total duration-specific fertility would have been approximately equal to total age-specific fertility.

In China the degree to which TAFR falls short of TDFR (or, more precisely, falls short of 0.98 TDFR) is a measure of the extent to which TAFR has been lowered by changes in nuptiality. In the 1960s, TAFR was 5 to 7 percent lower than it would have been had age at marriage been constant; but in the 1970s, TAFR was as much as 22 percent lower than it would have been with the same marital fertility by duration of marriage and a history of constant instead of rising age at marriage. By 1981 the contribution of nuptiality change to lower fertility had been reduced by one-half of its contribution during 1977–79 as a result of the marriage boom in 1980 and 1981. (TMR averaged about 0.75 in the 1970s but rose to an average above 1.20 in 1980–81. See Appendix A for further discussion of TAFR and TDFR.)

Truncation of fertility records for early years (before 1964)

The survey design called for interviews with all women in the sample households who were 15 to 67 years of age. The upper age limit of 67 means that the marriage and childbearing histories contained no information about events experienced by women above age 25 in 1940, 30 in 1945, 35 in 1950, 40 in 1955, and 45 in 1960. Complete data for women of ages up to 49, which is considered the end of the reproductive age span, are available only for the years since 1964. The basic tables that are the major part of this paper show age-specific fertility rates up to only age 25 in 1940, 30 in 1945, etc., with corresponding truncation of rates tabulated by duration of marriage. In the years for which the data are incomplete, total fertility rates by age and duration since first marriage have been estimated. The estimates are based on an assumption of a constant relation between fertility rates at different durations since first marriage, and on the proven relation of TAFR to the sum of duration-specific rates, after multiplication by TMR (displaced an appropriate number of years earlier). The estimates begin in 1945 because the severely truncated data for the earliest years provide an insufficient basis for calculation.

Variability of rates attributable to the limited sample sizes in individual provinces

A very large sample was interviewed in the fertility survey in order to yield at the national level reliable single-year-of-age fertility rates for single years of time in the period just before the survey. When allowance is made for the greater variance resulting from cluster sampling, the estimated sampling variance at the age of peak fertility (0.301 at age 25 in 1981) is 43×10^{-6}, implying a sampling standard deviation of this rate of 0.0066. Thus the 95 percent confidence limits for the true value of this fertility rate are 0.301 ± 0.0132, or 0.288 to 0.314. The confidence limits for the highest fertility rate in a five-year age interval in China as a whole are about 0.216 ± 0.0059, or 0.210 to 0.222. The stochastic variability of the total fertility rates is still less, except in the early years when the estimated rates are based on duration-specific fertility for only two or three duration intervals.

The sample size for most individual provinces is quite respectable in comparison with many national fertility surveys. Nevertheless, stochastic variation is much greater in the fertility rates calculated for individual provinces than for all China. The number of respondents and the number of sample points in each province are listed in Table 1. In four provinces (Beijing, Tianjin, Qinghai, and Ningxia) the number of respondents is less than 4,000; in two of these (Qinghai and Ningxia) the number is less than 1,500. Roughly speaking, sampling variability increases in inverse proportion to the square root of the number of respondents. Since the number of respondents in Beijing and Tianjin is about 1.0 percent of the national number, the standard deviation of a given fertility rate there is about ten times the corresponding national figure. The data for urban populations are even more affected by small numbers. There are five provinces with fewer than 1,000 urban respondents and only seven with more than 2,000.

The effect of the small number of respondents (exacerbated by clustering into a small number of sampling units in some provinces) is to produce fertility rates that may in some years differ by a wide margin from true rates and that vary erratically from year to year. In rural Beijing (1,162 respondents), for example, there were only about 60 respondents who had been married five years or less during the early 1940s, and they reported an aver-

Table 1. Number of respondents and number of sample units in each province: One per Thousand Sample Fertility Survey, 1982

Province	Number of respondents			Number of sample units
	Total	Urban	Rural	
1 Beijing	3,103	1,941	1,162	7
2 Tianjin	3,044	1,719	1,325	6
3 Hebei	17,030	1,575	15,455	53
4 Shanxi	7,681	955	6,726	30
5 Inner Mongolia	6,257	1,843	4,414	16
6 Liaoning	12,513	4,836	7,677	22
7 Jilin	6,744	1,892	4,852	14
8 Heilongjiang	9,599	3,133	6,466	23
9 Shanghai	4,416	2,888	1,528	6
10 Jiangsu	21,019	3,447	17,572	41
11 Zhejiang	11,705	1,440	10,265	44
12 Anhui	14,357	1,662	12,695	32
13 Fujian	7,414	826	6,588	17
14 Jiangxi	9,505	1,094	8,415	24
15 Shandong	23,409	1,559	21,850	88
16 Henan	21,717	1,992	19,725	50
17 Hubei	15,638	2,419	13,219	38
18 Hunan	16,727	1,939	14,788	50
19 Guangdong	17,692	3,020	14,672	32
20 Guangxi	10,512	973	9,539	17
21 Sichuan	30,114	4,385	26,729	85
22 Guizhou	7,841	1,108	6,733	27
23 Yunnan	10,688	1,254	8,834	16
24 Shaanxi	8,956	1,545	7,411	35
25 Gansu	5,732	1,057	4,675	19
26 Qinghai	1,489	283	1,206	6
27 Ningxia	1,290	387	903	4
28 Xinjiang	4,418	1,241	2,517	13
Total	310,610	52,421		815

age of only about twelve births each year. That the fertility rate at duration 0–4 in 1943 is more than twice as high as in 1940 could be an artifact of the small sample; for all of rural Beijing the rates in the two years might well have been nearly equal. The erratic rates from year to year at early durations in rural Beijing in the 1940s (resulting from the small number of events reported) lead to erratic estimates of the total duration-specific rate (and the total age-specific rate) derived, as they are, from data limited to the early years of marriage of older respondents.

Variability in annual data resulting from small numbers of observations can be reduced by combining data from a sequence of several calendar years, or by other forms of smoothing. In Figure 1, fertility rates at duration 0–4 for rural Beijing Province are shown in a five-year running average (e.g., the average of rates for the period 1940–44 is shown at the middle year, 1942). The averaged rates are much less variable, but of course genuine fluctuations are smoothed out along with stochastic variation. Users of the data for any province are cautioned to bear in mind the sample size when interpreting the annual sequences listed in the basic tables. If a provincial sample is small, some form of smoothing is advisable; the possibility of explaining dips and peaks in any annual sequence is limited to the national population, to larger provinces, and to regional data obtained by combining figures from adjacent provinces.

Features of China's fertility rates

Fertility rates at different durations since first marriage in rural China (Figure 2) varied in a highly synchronized way until 1969, after which fertility at duration less than five years remained high and fertility at higher durations underwent a large sustained decline. The synchronism of the variation until the late 1960s suggests that the variations from year to year had a quasi-biological source, since voluntary control by means of contraception or induced abortion normally affects fertility at higher durations more than at lower durations, as is evident in the downward trend after 1969. Possible quasi-biological factors were disruptions of married life caused by a change in living arrangements due to collectivization and disruptions of married life or even reduced fecundability caused by an economic crisis, including widespread famine.

Fertility at duration 0–4 was lower than at duration 5–9 in rural China in the 1940s, rose to equality in the early 1950s, and fell slightly below during the big dip in the agricultural crisis years beginning in 1958. The two rates were virtually identical from 1963 until 1969, when fertility at duration 5–9 (and at higher durations) began a steep decline. The almost perfect synchronism of the first two duration-specific rates (and fertility at other durations as well) until the late 1960s signals the absence of fertility control related to parity until after 1969. Lower fertility at duration 0–4 than at 5–9 in the 1940s was the result of very early marriage before 1950. When mean age at first marriage is only 18.3 years (its average in the 1940s), many women in their first five years of marriage have lower fecundability than slightly older women. As the frequency of very early marriage diminishes, the rate of childbearing at early duration of marriage rises. (In rural China from

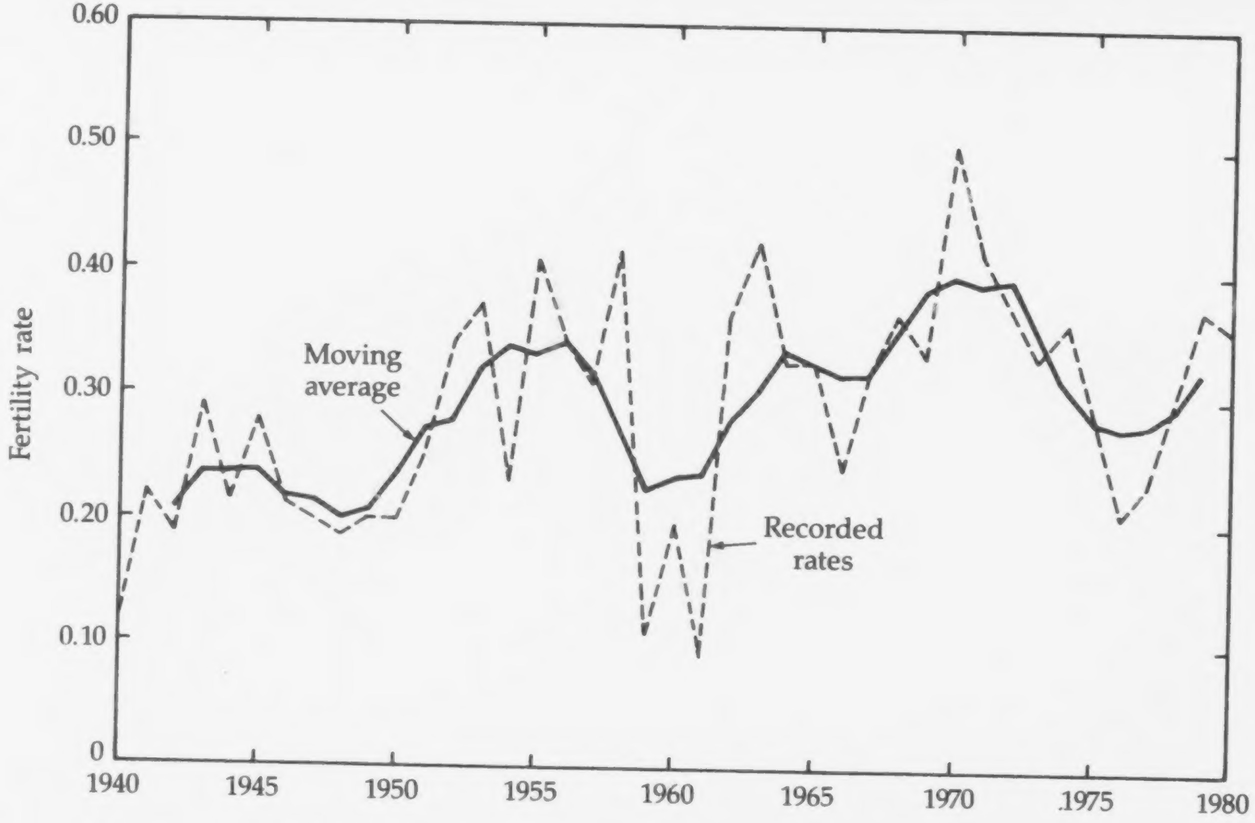

Figure 1. Marital fertility rates, marriage duration of 0–4 years: Rural Beijing Province, 1940–80, as recorded, and five-term moving average

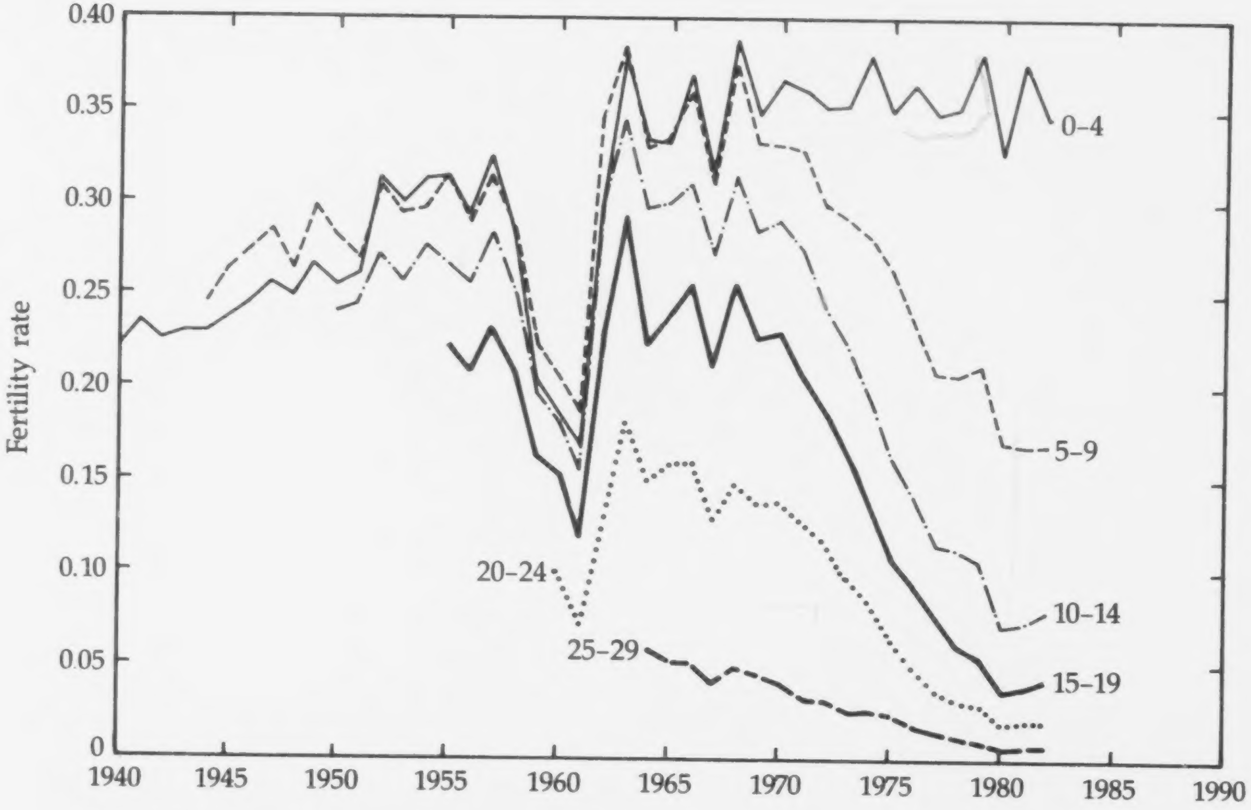

Figure 2. Fertility rates of ever-married women by five-year intervals of duration since first marriage: Rural China, 1940–82

1945–49 to 1950–54, the proportion of first marriages occurring before age 16 fell from 16.9 to 11.6 percent, before age 17 from 33.0 to 27.6 percent, and before age 18 from 50.1 to 47.2 percent.) The decline in very early marriages has the greatest effect on fertility at duration 0–4 years.

In urban China, duration-specific fertility was higher at duration 0–4 years than at 5–9, even in the 1940s (Figure 3). The proportion of marriages at very early ages in the urban population was less in 1945–49 than five years later in the rural population: 38.9 percent of urban marriages took place before age 18 in 1945–49, compared with 47.2 percent of rural marriages in 1950–54.

There are surprising time trends in duration-specific fertility, and conspicuous differences between urban and rural trends. In the rural population, fertility at the earliest durations rose between the 1940s and the 1950s partly because of fewer very early marriages. Rural marital fertility also increased between the late 1940s and the 1950s at duration 5–9 (the median rate for 1945–49 is 0.273; for 1952–56, 0.296). Fertility at all durations fell dramatically beginning in 1958, reaching a low in 1961 of 42 to 48 percent below the fertility level in 1957. After reaching a postcrisis peak in 1963, fertility at durations 0–4, 5–9, and 10–14 returned to a near plateau above the corresponding rates in the 1950s. (Median fertility in 1964–68 was 5.7, 12.8, and 12.4 percent higher than in 1952–56 at durations 0–4, 5–9, and 10–14 respectively.)

In the 1970s marital fertility at duration 0–4 varied moderately from year to year around a median level about 5 percent higher than in 1964–68; at greater durations marital fertility fell dramatically. The family planning policy led rural women married more than five years to a strong restriction of fertility, but it did not affect childbearing in the first five years after marriage.

Two well-known episodes in the history of the People's Republic have visibly distorted the sequence of rural duration-specific fertility rates. One was the economic crisis of the Great Leap Forward, which caused a major decline in fertility at all durations from 1958 to 1961 and was followed by a dramatic recovery to a record peak in 1963. The second was the Cultural Revolution, initiated in 1966, which probably caused the dip in 1967 at every duration of marriage.

In China's urban population, duration-specific marital fertility at durations 0–4 and 5–9 rose fairly steadily through the 1940s and 1950s to a peak in 1957, which was followed by a steep decline until 1961 and recovery to a record peak in 1963, as a consequence of the economic crisis (Figure 3). From 1964 onward, the course of urban marital fertility was quite different from that of rural marital fertility. Urban fertility declined at every duration to a minimum in 1966 or 1967 well below its level in the 1950s, perhaps

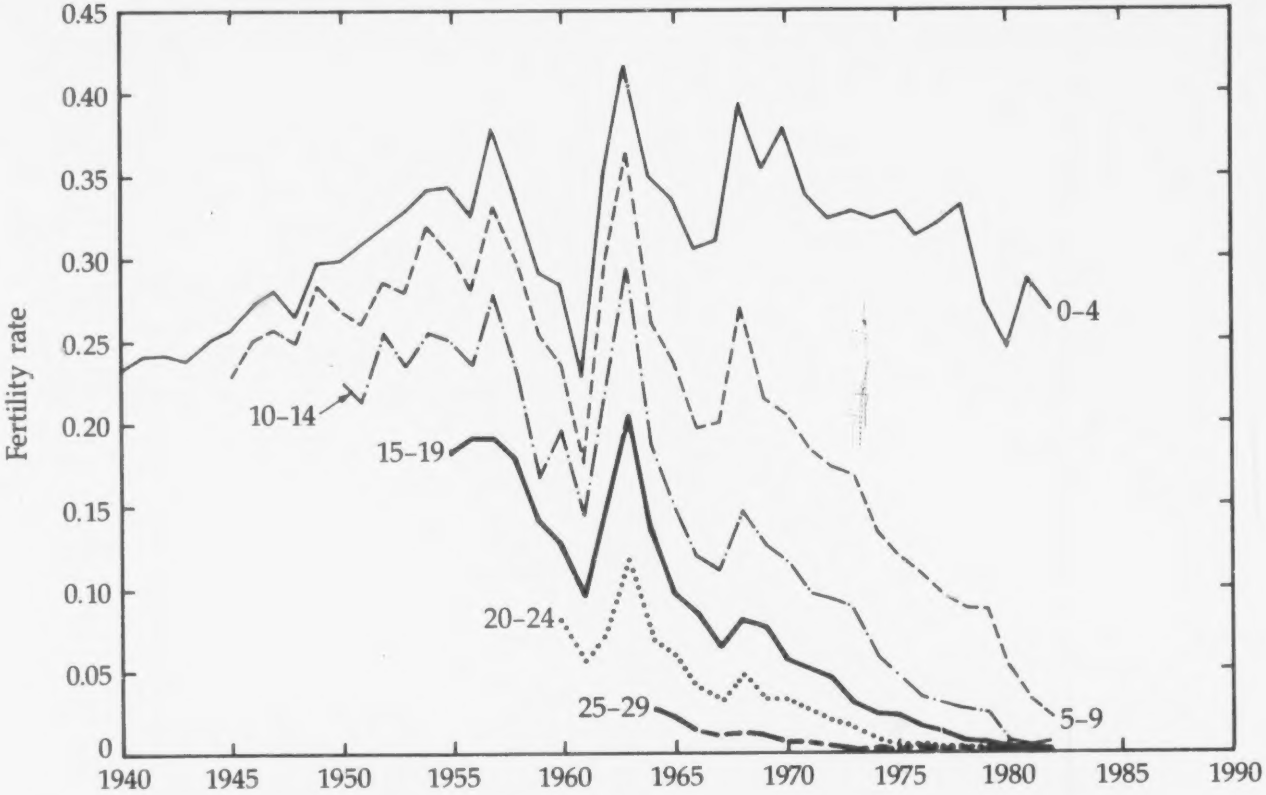

Figure 3. Fertility rates of ever-married women by five-year intervals of duration since first marriage: Urban China, 1940–82

in response to the family planning policy introduced in the urban areas during the 1960s, and sharply increased in 1968, after the policy had been disrupted by the Cultural Revolution. The decline after 1970 was steeper than in the rural population and occurred at duration 0–4 as well as at later durations. A sharp drop at duration 0–4 in 1979 coincided with the initiation of the one-child policy. (Note the similar sharp break one year later at durations 5–9 through 20–24 in rural China.)

The sequence of age-specific fertility rates tells a slightly different story. In rural China, fertility rates at ages 20–24 and 25–29 were virtually identical from 1945 to 1957 because the proportion married was very high even at ages 20–24, there was little difference in fecundity among women 20 to 30 years old, and essentially there was no contraceptive practice (Figure 4). In the late 1950s, fertility at 20–24 began to fall below fertility at 25–29 as later marriage reduced the proportion married among women in their early 20s. The proportion ever married at 20–24 declined from 87.4 percent in 1956 to 75.2 percent in 1969, 59.4 percent in 1974, and 43.6 percent in 1979.

Many features of the time pattern of duration-specific fertility in rural China are repeated in the age-specific rates: the big deficit in 1958–61, the peak in 1963, and the dip in 1967. Moreover, fertility rose at all observed age intervals from the 1940s to the 1950s and from the 1950s to the 1960s. The decline in the 1970s at ages 25–29 and higher was the result of the decline in marital fertility already noted; the decline at 20–24 was the result of later marriages.

In urban China, fertility at ages 20–24 was lower than at 25–29 even during the 1940s because urban marriage occurred at a later age than rural marriage. By the 1960s, fertility at ages 20–24 was lower even than at ages 30–34 because of extensive increases in age at marriage (Figure 5).

Fertility differences and fertility trends in the provinces

Both time trends and interprovincial differences in fertility in particular years must be interpreted with caution because of the large stochastic element in the tabulated fertility rates in provinces where the respondent samples are especially small. Despite the small numbers, certain common features in fertility trends can be discerned in most, if not all, of the twenty-eight provinces. For example, the total age-specific fertility rate based on reported births in the rural area of every province was at least 33 percent lower in 1961 than in 1957 (the decline for rural China as a whole was 48 percent); the largest reductions were more than 60 percent of the 1957 fertility rate.

The fertility rate of ever-married women at duration 5–9 provides a convenient means for comparing changes in fertility in the different provinces. The total fertility rate, which is another convenient form of comparison, incorporates a large element of estimation in the early years, whereas from

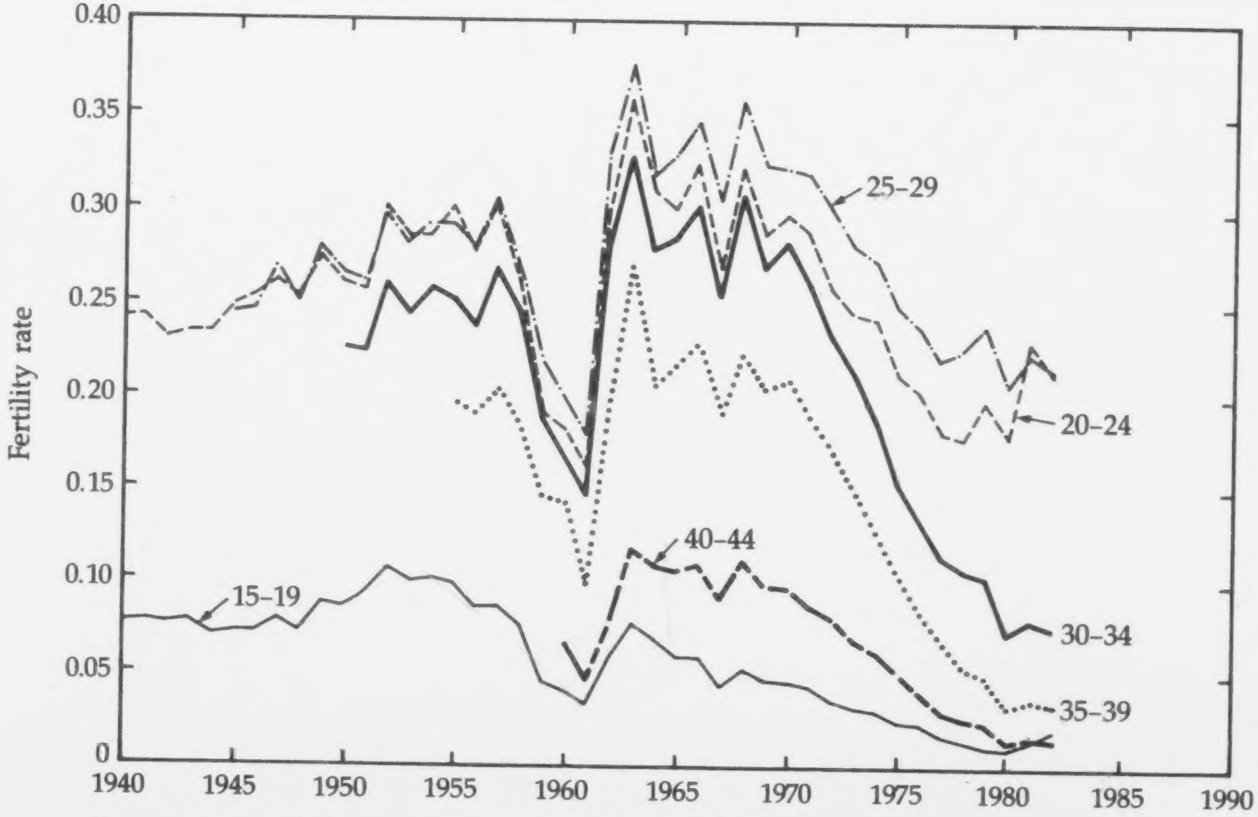

Figure 4. Fertility rates by five-year age intervals: Rural China, 1940–82

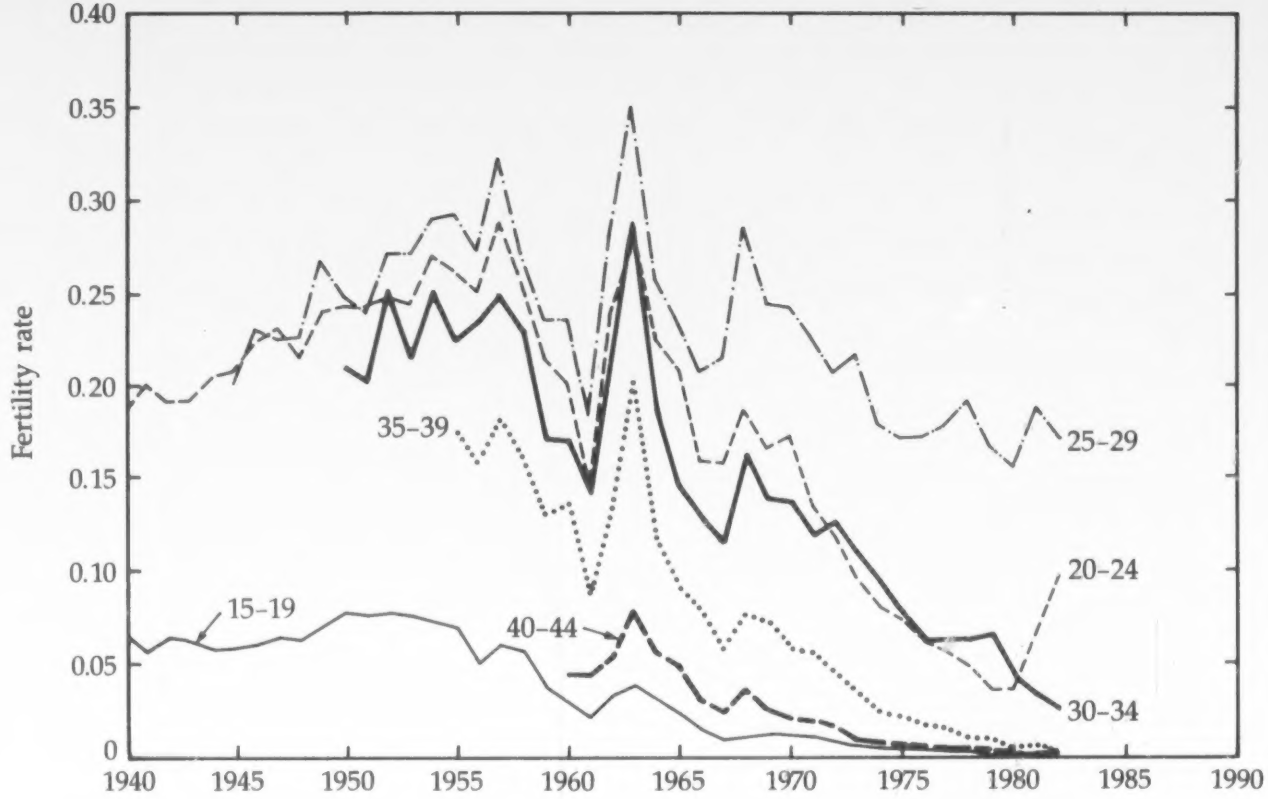

Figure 5. Fertility rates by five-year age intervals: Urban China, 1940–82

1945 onward marital fertility at duration 5–9 is derived directly from the respondents' reports. The median annual value of fertility at duration 5–9 years since first marriage in four five-year time periods in each province is presented in Table 2. The change from one period to the next is shown in Figure 6. The rise in fertility in rural China at duration 5–9 between 1945–49 and 1952–56, and the further rise in 1964–68, were noted earlier. It was also noted that the synchronism of changes in fertility at various durations indicates little influence of contraception on marital fertility dur-

Table 2. Median marital fertility rates at duration 5–9 years in selected periods, for the provinces of Mainland China

Province	1945–49	1952–56	1964–68	1971–75	1977–81
1 Beijing	.240	.307	.238	.179	.089
2 Tianjin	.288	.316	.241	.182	.083
3 Hebei	.249	.278	.323	.307	.221
4 Shanxi	.225	.279	.292	.275	.163
5 Inner Mongolia	.262	.312	.313	.260	.193
6 Liaoning	.276	.357	.305	.220	.134
7 Jilin	.290	.353	.340	.278	.140
8 Heilongjiang	.275	.334	.317	.293	.165
9 Shanghai	.284	.298	.160	.082	.063
10 Jiangsu	.258	.277	.302	.179	.108
11 Zhejiang	.284	.300	.333	.243	.192
12 Anhui	.241	.268	.322	.286	.223
13 Fujian	.275	.296	.334	.311	.210
14 Jiangxi	.286	.286	.365	.337	.238
15 Shandong	.263	.300	.334	.249	.153
16 Henan	.262	.295	.308	.247	.176
17 Hubei	.284	.305	.362	.261	.167
18 Hunan	.315	.321	.356	.289	.181
19 Guangdong	.239	.260	.321	.294	.235
20 Guangxi	.260	.279	.342	.317	.266
21 Sichuan	.299	.323	.333	.302	.129
22 Guizhou	.290	.296	.336	.350	.268
23 Yunnan	.300	.344	.337	.303	.232
24 Shaanxi	.275	.273	.315	.292	.190
25 Gansu	.291	.321	.355	.309	.213
26 Qinghai	.221	.233	.308	.291	.243
27 Ningxia	.335	.320	.351	.306	.261
28 Xinjiang	.216	.242	.327	.292	.225

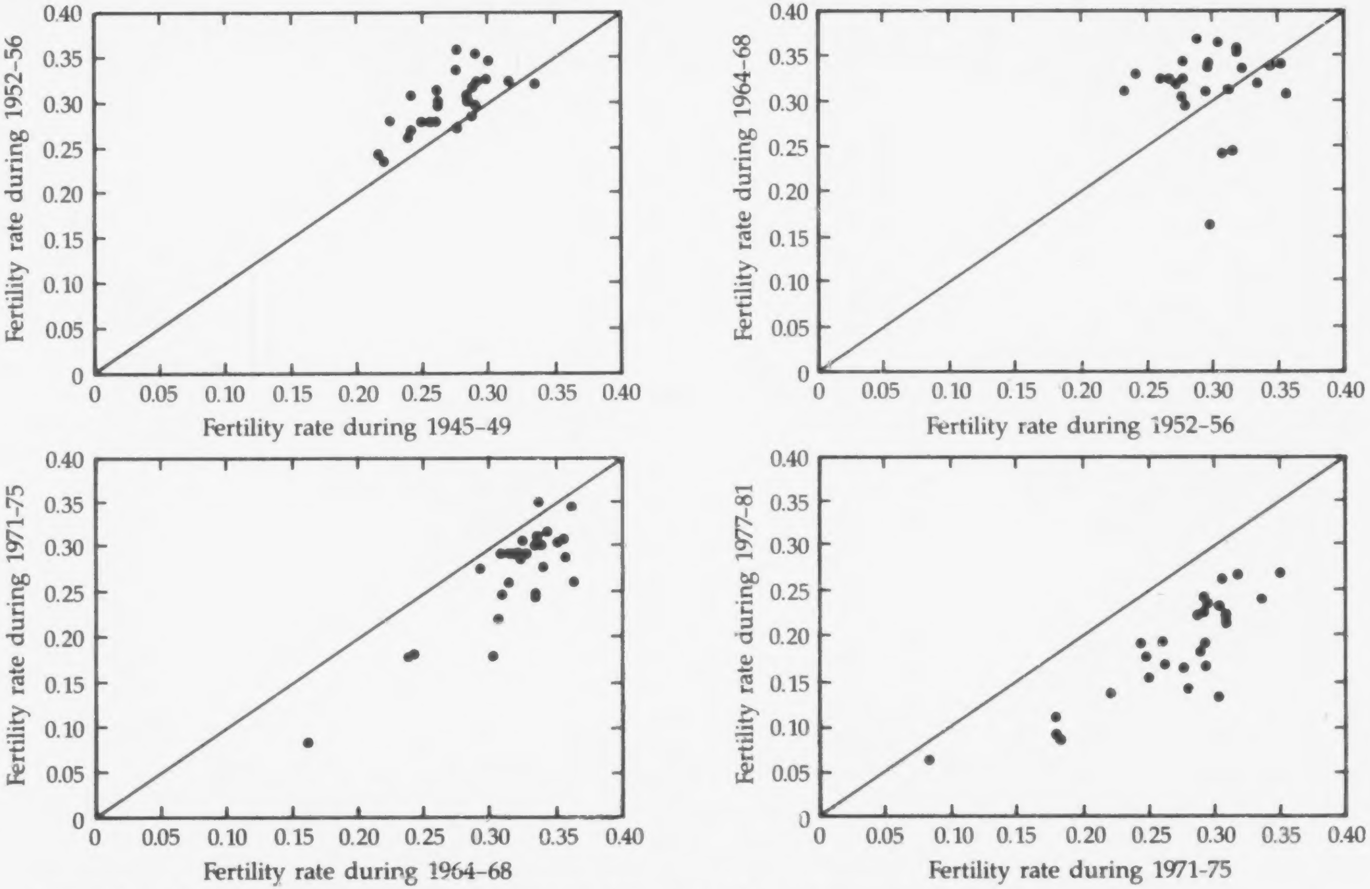

Figure 6. Marital fertility rates at marriage duration of 5-9 years: Provinces of China, different periods

ing those early years; the major decline at durations 5–9 years and above in rural China after 1970, on the other hand, is clearly due to the birth control program.

Median fertility at duration 5–9 was higher (or within 1.0 percent of the same value) in 1952–1956 than in 1945–49 in every province but Ningxia, where fewer than 1,500 respondents were interviewed. From 1952–1956 to 1964–1968, an increase in marital fertility at duration 5–9 was again shared by most provinces—all but seven, to be precise. In six of the seven provinces wherein fertility at duration 5–9 was lower in 1964–1968, more than 25 percent of the respondents were in urban sample units. (In the only other such province, Inner Mongolia, there was no change in the rate at duration 5–9). In other words, the data indicate a virtually universal increase in marital fertility from the 1940s to the 1960s (the years affected by the economic crisis are omitted from consideration), with the exception of provinces in which the urban population had a major influence. In such provinces marital fertility increased from the 1940s to the 1950s but fell between 1952–56 and 1964–68. In the most urbanized provinces of Beijing, Tianjin, and Shanghai, the decline in marital fertility at durations 5–9 years was 25 percent or more.

From 1964–68 to 1971–75, fertility in the second five years of marriage fell in every province except Qinghai (where, because the number of respondents was so small, the exception is highly questionable). From the early to the later years of the 1970s, the fall in marital fertility was universal. The declines in the later years are readily understood; the quasi-universal increases from the 1940s to the 1950s and from the 1950s to the 1960s can be explained only after further research.

How age-specific and duration-specific rates were calculated

Fertility rates were derived from individual marriage histories and birth histories provided by the survey respondents. The rates were calculated as the ratio of the number of events in a specified age (or duration) interval during a given year to the number of person-years lived by the respondents in the interval. For example, the fertility rate at ages 15–19 in 1940 was calculated as the number of births that occurred to women who were between exact ages 15 and 20 in 1940, divided by the number of person-years lived in 1940 in this age interval by the respondents. Person-years lived at each age are approximated by the midyear population at that age. Since the fertility rates calculated are the rates of childbearing in the past experienced by the respondents, the number of person-years lived by the respondents between exact ages 18 and 20 in 1940 is equal to the number of person-years lived between ages 57 (15 plus 42) and 62 (20 plus 42), forty-two years later, in 1982, and thus to the number of respondents who were between exact ages 57 and 62 at the time of the survey.

Duration-specific rates were derived by an analogous procedure. (It should be noted that the duration-specific rates presented here are based on births to *ever-married* women classified by duration since first marriage. Only the date of first marriage was recorded for each woman. No information was collected on dates of marital dissolution or remarriage.) From knowledge of date of first marriage for a given respondent, a file of person-years lived in each duration interval can be constructed. A respondent who married on 1 July 1953 contributed half of one person-year to duration 0–4 in 1953, and one person-year in 1954, 1955, 1956, and 1957. In 1958 she contributed half of one person-year to duration 0–4, and half of one person-year to duration 5–9. A birth to her before 1 July 1958 would contribute to the duration-specific fertility rate at 0–4; if it occurred after 1 July 1958, it would contribute to the rate at duration 5–9.

This sytem of storing the data makes it possible to calculate fertility rates by single years of age and duration of marriage. Such rates have been calculated for some provinces but are too strongly affected by sampling fluctuations to be reproduced for general use. The basic tables and the figures present rates for five-year intervals of age and marriage duration.

Truncation of estimates because of upper age limit of respondents

The detailed questionnaire that obtained marriage and fertility histories in 1982 from respondents in every sample household was administered to all women 15 to 67 years of age in the household. The upper age limit of 67 means that marriage and fertility data pertain to women who were not older than 25 in 1980, 30 in 1985, or 49 in 1964. As a result, age-specific rates can be calculated from actual responses for ages 15–19 and 20–24 from 1940 to 1944, for the three five-year age intervals less than 30 from 1945 to 1949, for age intervals less than 45 from 1960 to 1964, and for all age intervals up to 50 after 1964.

Duration-specific rates are equally affected by truncation, but in a less clearcut way. Almost all women who were age 25 in 1940 (i.e., those 67 in 1982) had at that date completed five years of marriage, since the mean age at marriage was about 18 years. For 1940 to 1944, the fertility at duration 0–4 is presented; for 1945 to 1949, the rates of duration 0–4 and 5–9; etc.

Estimation of TDFR and TAFR, 1945–63

The restriction of directly calculated age-specific fertility rates for early years to younger ages, and of directly calculated duration-specific rates to early durations of marriage, leads to incomplete listing of rates until 1964 and later. Such partial records of fertility are valuable in themselves. Nevertheless, it seemed worthwhile to complete the sequences of total fertility rates by age (TAFRs) and total marital fertility rates by duration (TDFRs) by estimating these totals for years 1945–63, even though only partial information is available.

Estimates of TDFR and TAFR have been constructed on the basis of two relations among fertility rates that can be assumed to prevail in the early years. One relation is the observed tendency for duration-specific fertility rates to fluctuate in unison from year to year, preserving more or less constant ratios between rates at different durations. The second relation is expressed by the equation $\text{TAFR} = \int_0^{35} f(d,t)\text{TMR}(t-d)\, dd$, where $f(d,t)$ is the fertility of ever-married women at duration d at time t, and TMR $(t-d)$ is total first marriage rate at time $t - d$. On the basis of the first relation, unrecorded duration-specific rates for early years are estimated from recorded rates in the same year. On the basis of the second relation, TAFR for each year is calculated from the recorded and estimated duration-specific rates of that year and the total first marriage rate in the years preceding the year in question.

The approximate constancy of the ratio of duration-specific fertility at different durations is evident in Figures 2 and 3, showing duration-specific rates for rural and urban China. Rates at different durations move up and down synchronously until the mid-1960s in the urban population and the late 1960s in the rural population (with the exceptions noted earlier).

The total duration-specific fertility rate (TDFR) for the years in which the data are truncated is estimated by using the ratios of duration-specific rates at later duration intervals to the rates at earlier intervals. The ratios are from the rural and urban populations of all Mainland China, during the first years in which truncation permits their calculation. Specifically, when D_1 is the marital fertility rate at duration 0–4 years, D_2 at duration 5–9 years, and D_7 at duration 30–34 years, we make use of the median value of D_3/D_2 for 1950–54, D_4/D_3 for 1955–59, D_5/D_4 for for 1960–63, and D_6/D_5 and D_7/D_6 for 1964–68. We assume the ratios to be fixed during the years in which truncation requires estimation, and to be the same in every province.

The ratios employed in estimation are shown in Table 3. Estimates were not attempted for 1940–44, where only D_1 is available. The ratio of D_i to D_1 was not utilized because D_1 was rising in relation to other duration-specific ratios in the early years.

D_3, D_4, D_5, D_6, and D_7 are estimated for 1945–49 from D_2. In later years, separate estimates at later durations are based on D_2 and D_3 (1950–54), D_2, D_3, and D_4 (1955-59), and D_2, D_3, D_4, and D_5 (1960–63); the separate estimates are averaged. After duration-specific fertility rates were estimated

Table 3. Ratios of fertility rates at different durations employed in the calculation of TDFR for 1940–63

Ratio	Rural	Urban
Ratios at adjacent five-year intervals		
D_3/D_2	.874	.841
D_4/D_3	.830	.764
D_5/D_4	.620	.596
D_6/D_5	.324	.325
D_7/D_6	.155	.111
Ratios to earlier intervals obtained by chaining		
D_4/D_2	.725	.695
D_5/D_2	.450	.384
D_6/D_2	.146	.125
D_7/D_2	.023	.014
D_5/D_3	.515	.457
D_6/D_3	.167	.149
D_7/D_3	.026	.017
D_6/D_4	.201	.144
D_7/D_4	.031	.022
D_7/D_5	.050	.036

at the later duration intervals, omitted because of truncation, TDFRs for the urban and rural populations were computed as $5(D_1+D_2+D_3+D_4+D_5+D_6+D_7)$, combining recorded and estimated rates. TDFR for the total population of each province was calculated as the weighted average of rural and urban TDFRs; the weights were the number of person-years lived by ever-married women in each sector.

Estimation of TAFR from duration-specific rates, and total first-marriage rates of preceding years

The total age-specific fertility rate for the years affected by truncation could have been estimated by combining the age-specific rates recorded up to the age that 67-year-olds had attained in a given year with estimated rates above that age. Estimates so obtained are as valid as those presented here, but they are often inconsistent with the relation derived earlier, namely that $\text{TAFR} \cong .98\ \text{TDFR}^*$, where $\text{TDFR}^* = \int_0^{35} f(d,t)\text{TMR}(t-d)\ dd$; $f(d,t)$ is the fertility rate at duration t and time d; and $\text{TMR}(t-d)$ is the total marriage rate d years before t. To preserve the correct relation between the two total rates, and thereby to illustrate correctly the effect of changing nuptiality on total fertility, TAFR for 1945–63 was estimated from duration-specific fertility rates (recorded and estimated) and total first-marriage rates, according to the above formula.

The calculation of TDFR* (TAFR $\cong$ .98 TDFR*) was based on duration-specific rates tabulated in five-year duration intervals, and on mean values of the total first-marriage rate, over five-year intervals. Specifically, the formula modified for use with five-year intervals is $\text{TDFR}^* = 5\sum_1^7 (D_i)(\text{TMR}_i)$. D_1 is fertility at duration 0–4 years, D_2 at duration 5–9 years, etc., and TMR_i is the total first-marriage rate in the time interval from $t - 5_i$ to $t - 5_i + 5$, where t is the midpoint of the year in which the fertility rates are experienced.

The value of TMR for a five-year interval is taken as the average of TMRs for the individual years. The five-year TMRs required for these calculations are in time intervals bounded by the midpoints of calendar years five years apart. To calculate TMR for an interval (such as 1975.5 to 1980.5) that begins and ends in the middle of a calendar year, TMR for the years 1975 through 1979 is averaged with TMR for 1976 through 1980.

Table 4 illustrates the conversion of recorded duration-specific fertility rates for 1980 and recorded first-marriage rates from 1945 to 1980 into an estimate of TAFR for rural China in 1980. For the years from 1945 to 1963, when truncation *requires* that TAFR be estimated, duration-specific fertility rates are incompletely listed; in addition, first-marriage rates are unrecorded for women over age 23 in 1938, 24 in 1939, 25 in 1940, etc. The required values of TMR_i for early time intervals (realistically, for intervals before 1938–42) are not on record. Table 5 illustrates the calculation of TDFR* for 1950. Values of duration-specific fertility at durations 15–19, 20–24, 25–29,

Table 4. Calculation of TDFR*, and estimated TAFR, for the rural population of China: 1980

Duration interval		D_i	TMR_i	$D_i \cdot \text{TMR}_1$
1	0–4	.324	.843	.2731
2	5–9	.170	.710	.1207
3	10–14	.070	.864	.0605
4	15–19	.035	.972	.0340
5	20–24	.018	.865	.0156
6	25–29	.005	.919	.0046
7	30–34	.001	1.037	.0010
			Sum of $D_i \cdot \text{TMR}_i$ =	.5095

Note: TAFR = 0.98 TDFR* = (0.98)(5)(.5095) = 2.497. (TAFR, directly calculated, is 2.502; TDFR is 3.081.)

Table 5. Calculation of TDFR*, and estimated TAFR, for the rural population of China: 1950

Duration interval	D_i	TMR$_i$	Years of first marriages	D_i·TMR$_1$
1 (0–4)	.254	1.037	1945.5–1950.5	.263
2 (5–9)	.281	.943	1940.5–1945.5	.265
3 (10–14)	.240	.946	1938–42	.227
4 (15–19)	.201*	.946	1938–42	.190
5 (20–24)	.125*	.946	1938–42	.118
6 (25–29)	.041*	.946	1938–42	.039
7 (30–34)	.006*	.946	1938–42	.006
			Sum of D_i·TMR$_i$ =	1.108

Note: $D_4^* = [(.240)(.830) + (.281)(.725)]/2;$
$D_5^* = [(.240)(.515) + (.281)(.450)]/2;$
$D_6^* = [(.240)(.167) + (.281)(.146)]/2;$
$D_7^* = [(.240)(.026) + (.281)(.023)]/2;$
0.98 TDFR* = (0.98)(5)(1.108) = 5.431.

and 30–34 (D_4 to D_7) must be estimated. Only TMR$_1$ and TMR$_2$ (for years 1945.5 to 1950.5 and 1940.5 to 1945.5) can be derived from recorded data. TMR$_3$ to TMR$_7$ are assumed equal to the mean TMR from 1938 to 1942. The estimated values of D_4 to D_7 (based on recorded D_2 and D_3 plus the ratios listed in Table 3) are those incorporated in the estimate of TDFR for 1950 (5.72). The estimate of TAFR for 1950 (5.42) thus differs from the estimated TDFR (5.72) precisely because the total marriage rates before 1950 are calculated or estimated as below 1.00 for all periods except 1945.5 to 1950.5.

PART II.

BASIC TABLES: FERTILITY RATES BY AGE OF WOMAN, AND FERTILITY RATES OF EVER-MARRIED WOMEN BY DURATION SINCE FIRST MARRIAGE, 1940–82, FOR MAINLAND CHINA AND TWENTY-EIGHT PROVINCES: TOTAL, URBAN, AND RURAL

Basic Table 1.A. Total China: age-specific fertility rates, 1940-82

Birth year of child	15-19	20-24	25-29	30-34
1940	0.074	•	•	•
1941	0.075	•	•	•
1942	0.074	•	•	•
1943	0.076	•	•	•
1944	0.068	•	•	•
1945	0.069	0.241	•	•
1946	0.070	0.249	•	•
1947	0.076	0.257	•	•
1948	0.072	0.246	•	•
1949	0.084	0.269	•	•
1950	0.083	0.258	0.263	•
1951	0.090	0.254	0.257	•
1952	0.101	0.292	0.292	•
1953	0.094	0.278	0.280	•
1954	0.095	0.283	0.292	•
1955	0.092	0.294	0.293	0.248
1956	0.078	0.272	0.278	0.236
1957	0.081	0.299	0.308	0.266
1958	0.072	0.260	0.269	0.241
1959	0.044	0.196	0.222	0.184
1960	0.038	0.186	0.205	0.167
1961	0.031	0.157	0.179	0.143
1962	0.054	0.284	0.319	0.266
1963	0.072	0.345	0.371	0.321
1964	0.063	0.294	0.305	0.259
1965	0.053	0.284	0.309	0.257
1966	0.052	0.296	0.317	0.266
1967	0.038	0.250	0.285	0.224
1968	0.046	0.301	0.344	0.277
1969	0.041	0.267	0.309	0.241
1970	0.039	0.278	0.308	0.252
1971	0.038	0.263	0.303	0.231
1972	0.031	0.235	0.285	0.211
1973	0.027	0.220	0.270	0.193
1974	0.026	0.215	0.257	0.171
1975	0.020	0.188	0.235	0.139
1976	0.019	0.177	0.226	0.121
1977	0.014	0.159	0.212	0.104
1978	0.011	0.153	0.218	0.098
1979	0.009	0.167	0.225	0.096
1980	0.008	0.151	0.197	0.066
1981	0.013	0.197	0.216	0.071
1982	0.018	0.190	0.206	0.066

Note: In this and the following Basic Tables, a value of 0.000 represents a rate of fewer than cohort means there were no births in a given year and age group. Total fertility rates

35-39	40-44	45-49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.766
•	•	•	4.999
•	•	•	5.199
•	•	•	4.906
•	•	•	5.537
•	•	•	5.292
•	•	•	5.262
•	•	•	5.973
•	•	•	5.669
•	•	•	5.955
•	•	•	5.978
•	•	•	5.605
•	•	•	6.205
•	•	•	5.496
•	•	•	4.233
0.140	•	•	3.986
0.096	•	•	3.280
0.182	•	•	5.969
0.258	•	•	7.413
0.190	0.099	0.013	6.120
0.194	0.096	0.012	6.022
0.201	0.096	0.013	6.211
0.166	0.078	0.009	5.252
0.196	0.098	0.012	6.370
0.179	0.085	0.013	5.670
0.179	0.083	0.010	5.746
0.162	0.074	0.008	5.396
0.146	0.069	0.008	4.920
0.126	0.057	0.008	4.506
0.105	0.051	0.006	4.150
0.086	0.041	0.006	3.576
0.070	0.033	0.005	3.254
0.056	0.024	0.004	2.866
0.044	0.021	0.005	2.748
0.041	0.019	0.003	2.798
0.028	0.011	0.003	2.316
0.031	0.013	0.002	2.713
0.029	0.012	0.003	2.618

5 births per 10,000 women in a given year and age group. A blank cell in a complete age were not calculated for 1940-44 because of insufficient data.

Basic Table 1.B. Urban China: age-specific fertility rates, 1940–82

Birth year of child	15–19	20–24	25–29	30–34
1940	0.066	•	•	•
1941	0.057	•	•	•
1942	0.064	•	•	•
1943	0.062	•	•	•
1944	0.058	•	•	•
1945	0.059	0.208	•	•
1946	0.061	0.224	•	•
1947	0.065	0.232	•	•
1948	0.063	0.215	•	•
1949	0.071	0.241	•	•
1950	0.078	0.244	0.250	•
1951	0.076	0.243	0.240	•
1952	0.078	0.248	0.272	•
1953	0.076	0.244	0.273	•
1954	0.073	0.271	0.290	•
1955	0.069	0.262	0.293	0.223
1956	0.050	0.251	0.273	0.235
1957	0.061	0.289	0.323	0.249
1958	0.057	0.255	0.271	0.230
1959	0.038	0.214	0.235	0.171
1960	0.030	0.201	0.236	0.170
1961	0.021	0.141	0.183	0.140
1962	0.033	0.238	0.281	0.213
1963	0.039	0.283	0.349	0.286
1964	0.031	0.225	0.258	0.186
1965	0.023	0.209	0.234	0.145
1966	0.014	0.158	0.206	0.127
1967	0.009	0.157	0.214	0.114
1968	0.010	0.187	0.285	0.162
1969	0.012	0.165	0.244	0.138
1970	0.011	0.172	0.242	0.136
1971	0.010	0.135	0.225	0.118
1972	0.007	0.118	0.206	0.126
1973	0.005	0.096	0.216	0.109
1974	0.004	0.081	0.178	0.094
1975	0.004	0.073	0.170	0.077
1976	0.003	0.061	0.171	0.062
1977	0.002	0.056	0.177	0.062
1978	0.002	0.048	0.190	0.063
1979	0.001	0.036	0.165	0.066
1980	0.001	0.037	0.154	0.043
1981	0.002	0.067	0.186	0.033
1982	0.002	0.097	0.172	0.025

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.394
.	.	.	4.786
.	.	.	4.952
.	.	.	4.801
.	.	.	5.512
.	.	.	5.300
.	.	.	5.136
.	.	.	5.683
.	.	.	5.510
.	.	.	6.041
.	.	.	5.670
.	.	.	5.403
.	.	.	6.165
.	.	.	5.452
.	.	.	4.360
0.135	.	.	4.195
0.086	.	.	3.130
0.133	.	.	4.911
0.202	.	.	6.341
0.118	0.056	0.009	4.416
0.091	0.048	0.006	3.779
0.078	0.030	0.007	3.101
0.058	0.023	0.006	2.899
0.077	0.037	0.002	3.797
0.072	0.025	0.004	3.301
0.059	0.020	0.002	3.216
0.057	0.019	0.003	2.831
0.045	0.016	0.001	2.589
0.035	0.009	0.001	2.362
0.024	0.007	0.001	1.944
0.021	0.006	0.001	1.759
0.017	0.005	0.001	1.604
0.014	0.003	0.000	1.571
0.009	0.003	0.001	1.575
0.009	0.002	0.000	1.401
0.004	0.001	.	1.196
0.005	0.000	0.001	1.474
0.003	0.000	.	1.499

Basic Table 1.C. Rural China: age-specific fertility rates, 1940–82

Birth year of child	15–19	20–24	25–29	30–34
1940	0.076	•	•	•
1941	0.078	•	•	•
1942	0.076	•	•	•
1943	0.078	•	•	•
1944	0.070	•	•	•
1945	0.072	0.248	•	•
1946	0.072	0.254	•	•
1947	0.079	0.262	•	•
1948	0.074	0.252	•	•
1949	0.088	0.275	•	•
1950	0.085	0.261	0.266	•
1951	0.093	0.256	0.261	•
1952	0.107	0.302	0.297	•
1953	0.099	0.285	0.281	•
1954	0.101	0.286	0.292	•
1955	0.098	0.301	0.292	0.252
1956	0.085	0.277	0.279	0.236
1957	0.086	0.302	0.305	0.269
1958	0.076	0.262	0.268	0.244
1959	0.045	0.191	0.219	0.187
1960	0.040	0.182	0.197	0.166
1961	0.033	0.162	0.177	0.144
1962	0.058	0.295	0.330	0.278
1963	0.077	0.359	0.377	0.329
1964	0.069	0.309	0.317	0.277
1965	0.059	0.299	0.328	0.284
1966	0.059	0.323	0.346	0.302
1967	0.043	0.268	0.303	0.253
1968	0.053	0.322	0.358	0.308
1969	0.046	0.286	0.323	0.268
1970	0.045	0.297	0.321	0.282
1971	0.043	0.287	0.318	0.260
1972	0.036	0.257	0.300	0.232
1973	0.032	0.243	0.280	0.212
1974	0.030	0.240	0.272	0.187
1975	0.024	0.211	0.247	0.152
1976	0.023	0.201	0.236	0.132
1977	0.016	0.180	0.219	0.112
1978	0.013	0.176	0.224	0.104
1979	0.010	0.197	0.237	0.101
1980	0.009	0.178	0.205	0.071
1981	0.014	0.229	0.222	0.079
1982	0.020	0.212	0.213	0.074

35-39	40-44	45-49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.842
•	•	•	5.043
•	•	•	5.250
•	•	•	4.928
•	•	•	5.543
•	•	•	5.290
•	•	•	5.289
•	•	•	6.038
•	•	•	5.705
•	•	•	5.935
•	•	•	6.048
•	•	•	5.651
•	•	•	6.213
•	•	•	5.506
•	•	•	4.204
0.141	•	•	3.940
0.098	•	•	3.313
0.192	•	•	6.200
0.269	•	•	7.645
0.205	0.108	0.014	6.496
0.217	0.105	0.014	6.526
0.229	0.109	0.014	6.905
0.190	0.090	0.009	5.776
0.223	0.111	0.014	6.938
0.204	0.097	0.014	6.196
0.209	0.096	0.012	6.313
0.189	0.087	0.010	5.963
0.172	0.080	0.009	5.430
0.150	0.068	0.009	4.975
0.126	0.061	0.008	4.623
0.103	0.050	0.007	3.966
0.083	0.040	0.006	3.605
0.067	0.029	0.005	3.143
0.053	0.025	0.005	3.001
0.048	0.023	0.004	3.100
0.033	0.013	0.003	2.563
0.036	0.016	0.003	2.988
0.034	0.015	0.003	2.857

Basic Table 2.A. Total Beijing Province (1): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.069	.	.	.
1941	0.068	.	.	.
1942	0.070	.	.	.
1943	0.087	.	.	.
1944	0.073	.	.	.
1945	0.084	0.238	.	.
1946	0.052	0.204	.	.
1947	0.071	0.269	.	.
1948	0.116	0.200	.	.
1949	0.072	0.287	.	.
1950	0.050	0.258	0.307	.
1951	0.104	0.235	0.258	.
1952	0.102	0.290	0.263	.
1953	0.078	0.232	0.260	.
1954	0.089	0.248	0.266	.
1955	0.072	0.281	0.319	0.245
1956	0.047	0.256	0.252	0.177
1957	0.050	0.286	0.316	0.240
1958	0.088	0.235	0.236	0.211
1959	0.035	0.182	0.264	0.172
1960	0.030	0.204	0.196	0.164
1961	0.014	0.132	0.160	0.131
1962	0.025	0.214	0.279	0.245
1963	0.046	0.301	0.361	0.318
1964	0.011	0.193	0.239	0.212
1965	0.020	0.154	0.257	0.139
1966	0.025	0.131	0.188	0.137
1967	0.006	0.126	0.205	0.113
1968	0.017	0.172	0.269	0.123
1969	0.016	0.179	0.277	0.132
1970	0.008	0.198	0.268	0.132
1971	0.002	0.128	0.252	0.136
1972	0.010	0.101	0.235	0.118
1973	0.008	0.096	0.247	0.144
1974	.	0.086	0.168	0.049
1975	.	0.066	0.128	0.055
1976	.	0.057	0.166	0.054
1977	.	0.043	0.174	0.071
1978	.	0.038	0.151	0.092
1979	.	0.041	0.174	0.061
1980	0.002	0.045	0.207	0.047
1981	0.002	0.068	0.209	0.031
1982	.	0.079	0.172	0.033

1940–82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.439
.	.	.	4.806
.	.	.	5.783
.	.	.	5.896
.	.	.	4.597
.	.	.	6.333
.	.	.	5.445
.	.	.	5.785
.	.	.	4.998
.	.	.	5.898
.	.	.	6.217
.	.	.	5.141
.	.	.	6.067
.	.	.	5.320
.	.	.	4.489
0.169	.	.	4.134
0.088	.	.	2.982
0.169	.	.	5.111
0.254	.	.	6.987
0.193	0.092	0.011	4.755
0.061	0.069	.	3.497
0.091	0.034	.	3.031
0.076	0.035	0.009	2.845
0.082	0.043	.	3.527
0.080	0.031	.	3.572
0.081	0.028	.	3.580
0.048	0.009	.	2.880
0.021	0.018	.	2.518
0.010	0.004	.	2.547
0.011	.	.	1.570
0.019	.	.	1.337
0.021	.	.	1.492
0.005	.	.	1.466
0.009	.	.	1.453
0.020	0.004	.	1.496
0.020	.	.	1.603
.	.	.	1.552
.	.	.	1.418

Basic Table 2.B. Urban Beijing Province (1): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.090	.	.	.
1941	0.050	.	.	.
1942	0.063	.	.	.
1943	0.057	.	.	.
1944	0.081	.	.	.
1945	0.061	0.119	.	.
1946	0.043	0.188	.	.
1947	0.035	0.229	.	.
1948	0.100	0.227	.	.
1949	0.068	0.270	.	.
1950	0.057	0.228	0.373	.
1951	0.067	0.229	0.226	.
1952	0.081	0.240	0.250	.
1953	0.045	0.234	0.284	.
1954	0.093	0.278	0.288	.
1955	0.065	0.269	0.266	0.269
1956	0.029	0.243	0.300	0.138
1957	0.046	0.291	0.289	0.260
1958	0.095	0.198	0.247	0.217
1959	0.047	0.199	0.247	0.207
1960	0.025	0.210	0.206	0.129
1961	0.016	0.138	0.155	0.143
1962	0.015	0.183	0.277	0.183
1963	0.042	0.269	0.346	0.341
1964	0.006	0.142	0.227	0.185
1965	0.011	0.126	0.230	0.109
1966	0.021	0.111	0.189	0.103
1967	.	0.067	0.183	0.115
1968	0.024	0.155	0.255	0.099
1969	0.004	0.181	0.253	0.102
1970	0.003	0.128	0.269	0.115
1971	.	0.078	0.190	0.109
1972	.	0.064	0.186	0.085
1973	0.003	0.081	0.184	0.116
1974	.	0.029	0.133	0.024
1975	.	0.047	0.111	0.042
1976	.	0.050	0.197	0.071
1977	.	0.046	0.183	0.074
1978	.	0.024	0.138	0.078
1979	.	0.009	0.177	0.073
1980	.	0.015	0.194	0.050
1981	.	0.034	0.179	0.031
1982	.	0.079	0.139	0.018

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.169
•	•	•	6.057
•	•	•	5.530
•	•	•	6.227
•	•	•	4.117
•	•	•	7.250
•	•	•	5.077
•	•	•	5.403
•	•	•	5.092
•	•	•	6.538
•	•	•	6.025
•	•	•	5.041
•	•	•	6.129
•	•	•	5.350
•	•	•	5.002
0.090	•	•	3.820
0.075	•	•	3.199
0.115	•	•	4.277
0.246	•	•	6.870
0.126	0.016	•	3.509
0.023	0.030	•	2.642
0.036	0.025	•	2.425
0.056	0.010	•	2.154
0.047	•	•	2.900
0.049	0.009	•	2.989
0.051	0.008	•	2.872
0.021	0.007	•	2.024
0.010	0.021	•	1.827
0.004	•	•	1.943
0.009	•	•	0.977
0.015	•	•	1.075
0.023	•	•	1.709
0.007	•	•	1.550
•	•	•	1.196
0.024	•	•	1.409
0.008	•	•	1.336
•	•	•	1.225
•	•	•	1.179

Basic Table 2.C. Rural Beijing Province (1): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.047	•	•	•
1941	0.089	•	•	•
1942	0.080	•	•	•
1943	0.127	•	•	•
1944	0.062	•	•	•
1945	0.123	0.363	•	•
1946	0.067	0.222	•	•
1947	0.133	0.319	•	•
1948	0.144	0.164	•	•
1949	0.080	0.310	•	•
1950	0.035	0.307	0.237	•
1951	0.198	0.244	0.296	•
1952	0.162	0.375	0.279	•
1953	0.184	0.228	0.228	•
1954	0.077	0.194	0.236	•
1955	0.093	0.306	0.405	0.221
1956	0.100	0.291	0.178	0.222
1957	0.060	0.270	0.363	0.213
1958	0.077	0.353	0.216	0.202
1959	0.013	0.123	0.297	0.124
1960	0.036	0.185	0.177	0.221
1961	0.010	0.117	0.172	0.111
1962	0.039	0.285	0.284	0.351
1963	0.051	0.357	0.410	0.276
1964	0.018	0.277	0.278	0.263
1965	0.034	0.194	0.340	0.200
1966	0.031	0.157	0.183	0.225
1967	0.015	0.203	0.255	0.108
1968	0.006	0.196	0.293	0.198
1969	0.035	0.175	0.317	0.231
1970	0.016	0.306	0.267	0.185
1971	0.005	0.204	0.334	0.217
1972	0.027	0.160	0.300	0.195
1973	0.017	0.120	0.340	0.191
1974	•	0.175	0.219	0.092
1975	•	0.098	0.153	0.073
1976	•	0.069	0.118	0.031
1977	•	0.038	0.160	0.068
1978	•	0.067	0.171	0.113
1979	•	0.105	0.169	0.044
1980	0.005	0.106	0.228	0.042
1981	0.005	0.139	0.260	0.031
1982	•	0.078	0.234	0.057

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.996
.	.	.	3.240
.	.	.	6.113
.	.	.	5.449
.	.	.	5.262
.	.	.	4.983
.	.	.	6.026
.	.	.	6.422
.	.	.	4.834
.	.	.	4.772
.	.	.	6.556
.	.	.	5.322
.	.	.	5.956
.	.	.	5.268
.	.	.	3.593
0.252	.	.	4.670
0.104	.	.	2.615
0.239	.	.	6.508
0.266	.	.	7.185
0.286	0.177	0.021	6.594
0.123	0.110	.	5.006
0.178	0.044	.	4.092
0.109	0.067	0.017	3.867
0.144	0.101	.	4.691
0.137	0.062	.	4.789
0.141	0.061	.	4.885
0.119	0.011	.	4.455
0.054	0.012	.	3.742
0.028	0.012	.	3.541
0.015	.	.	2.508
0.031	.	.	1.772
0.017	.	.	1.174
.	.	.	1.329
0.026	.	.	1.881
0.013	0.015	.	1.730
0.036	.	.	2.091
.	.	.	2.176
.	.	.	1.839

Basic Table 3.A. Total Tianjin Province (2): age-specific fertility rates,

Birth year of child	15-19	20-24	25-29	30-34
1940	0.098	.	.	.
1941	0.059	.	.	.
1942	0.115	.	.	.
1943	0.100	.	.	.
1944	0.063	.	.	.
1945	0.078	0.209	.	.
1946	0.096	0.253	.	.
1947	0.100	0.262	.	.
1948	0.093	0.196	.	.
1949	0.046	0.249	.	.
1950	0.102	0.271	0.216	.
1951	0.099	0.268	0.306	.
1952	0.113	0.282	0.294	.
1953	0.093	0.237	0.291	.
1954	0.118	0.370	0.268	.
1955	0.114	0.312	0.363	0.294
1956	0.084	0.282	0.323	0.277
1957	0.098	0.356	0.327	0.316
1958	0.065	0.333	0.313	0.291
1959	0.052	0.236	0.249	0.131
1960	0.054	0.273	0.316	0.175
1961	0.014	0.147	0.167	0.237
1962	0.021	0.278	0.305	0.250
1963	0.029	0.316	0.405	0.300
1964	0.023	0.235	0.208	0.204
1965	0.036	0.209	0.282	0.131
1966	0.003	0.142	0.194	0.091
1967	0.003	0.124	0.242	0.109
1968	0.006	0.161	0.236	0.135
1969	0.003	0.163	0.266	0.150
1970	.	0.180	0.248	0.134
1971	.	0.120	0.276	0.115
1972	.	0.105	0.265	0.113
1973	.	0.046	0.228	0.135
1974	0.002	0.047	0.205	0.115
1975	.	0.036	0.234	0.102
1976	0.002	0.032	0.236	0.110
1977	.	0.015	0.207	0.073
1978	.	0.039	0.197	0.079
1979	.	0.013	0.207	0.072
1980	.	0.017	0.195	0.065
1981	0.002	0.039	0.194	0.038
1982	.	0.051	0.169	0.039

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.284
.	.	.	6.296
.	.	.	6.633
.	.	.	4.596
.	.	.	6.556
.	.	.	6.202
.	.	.	6.346
.	.	.	6.968
.	.	.	6.062
.	.	.	7.072
.	.	.	7.915
.	.	.	7.184
.	.	.	7.714
.	.	.	6.851
.	.	.	4.706
0.222	.	.	5.864
0.130	.	.	3.963
0.164	.	.	5.975
0.259	.	.	7.426
0.185	0.068	0.010	4.664
0.138	0.072	0.009	4.385
0.086	0.059	.	2.883
0.086	0.016	.	2.905
0.080	0.042	0.007	3.338
0.062	0.034	.	3.389
0.066	0.037	0.007	3.355
0.064	0.027	0.006	3.037
0.031	0.032	.	2.732
0.046	0.004	.	2.301
0.027	.	.	1.977
0.015	0.008	.	1.977
0.021	.	.	2.006
0.036	.	0.005	1.678
0.015	.	0.004	1.668
0.005	0.005	.	1.509
.	.	.	1.387
0.009	.	.	1.408
.	0.010	.	1.350

Basic Table 3.B. Urban Tianjin Province (2): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.097	.	.	.
1941	0.038	.	.	.
1942	0.078	.	.	.
1943	0.086	.	.	.
1944	0.062	.	.	.
1945	0.050	0.173	.	.
1946	0.071	0.253	.	.
1947	0.061	0.251	.	.
1948	0.065	0.163	.	.
1949	0.033	0.249	.	.
1950	0.076	0.215	0.194	.
1951	0.086	0.262	0.328	.
1952	0.094	0.246	0.286	.
1953	0.097	0.172	0.309	.
1954	0.090	0.368	0.233	.
1955	0.107	0.299	0.315	0.270
1956	0.054	0.301	0.297	0.281
1957	0.132	0.342	0.328	0.286
1958	0.114	0.323	0.326	0.317
1959	0.028	0.240	0.223	0.132
1960	0.037	0.296	0.299	0.136
1961	.	0.119	0.204	0.248
1962	.	0.360	0.298	0.198
1963	0.028	0.177	0.349	0.302
1964	0.017	0.184	0.165	0.134
1965	0.008	0.123	0.188	0.081
1966	.	0.065	0.152	0.059
1967	.	0.070	0.132	0.050
1968	0.006	0.095	0.165	0.090
1969	.	0.111	0.241	0.090
1970	.	0.072	0.159	0.099
1971	.	0.073	0.238	0.011
1972	.	0.046	0.249	0.060
1973	.	0.034	0.199	0.089
1974	.	0.019	0.188	0.142
1975	.	0.020	0.152	0.086
1976	.	0.004	0.138	0.054
1977	.	0.003	0.157	0.060
1978	.	0.006	0.145	0.066
1979	.	0.003	0.135	0.060
1980	.	0.003	0.139	0.088
1981	0.004	0.009	0.178	0.044
1982	.	0.047	0.127	0.026

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.173
.	.	.	6.376
.	.	.	6.049
.	.	.	3.930
.	.	.	6.244
.	.	.	5.856
.	.	.	6.617
.	.	.	6.466
.	.	.	5.932
.	.	.	6.324
.	.	.	7.401
.	.	.	7.278
.	.	.	7.603
.	.	.	7.234
.	.	.	4.039
0.205	.	.	5.596
0.141	.	.	4.434
0.139	.	.	5.472
0.257	.	.	6.296
0.148	0.033	0.016	3.484
0.072	0.054	.	2.629
0.028	0.009	.	1.567
0.041	.	.	1.463
0.036	0.017	.	2.041
0.045	0.023	.	2.550
0.027	0.014	.	1.858
0.038	0.007	.	1.828
.	0.007	.	1.810
0.019	.	.	1.704
0.007	.	.	1.783
0.009	0.005	.	1.365
.	.	.	0.977
0.012	.	.	1.159
0.013	.	0.006	1.181
.	.	.	0.989
.	.	.	1.150
0.022	.	.	1.293
.	.	.	0.998

Basic Table 3.C. Rural Tianjin Province (2): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.099	.	.	.
1941	0.095	.	.	.
1942	0.176	.	.	.
1943	0.124	.	.	.
1944	0.065	.	.	.
1945	0.128	0.265	.	.
1946	0.140	0.253	.	.
1947	0.177	0.279	.	.
1948	0.162	0.248	.	.
1949	0.082	0.249	.	.
1950	0.184	0.372	0.248	.
1951	0.136	0.281	0.269	.
1952	0.161	0.354	0.309	.
1953	0.085	0.399	0.262	.
1954	0.160	0.376	0.327	.
1955	0.122	0.351	0.449	0.331
1956	0.112	0.227	0.370	0.269
1957	0.072	0.389	0.327	0.368
1958	0.033	0.354	0.281	0.248
1959	0.066	0.229	0.327	0.209
1960	0.064	0.244	0.368	0.244
1961	0.024	0.173	0.061	0.217
1962	0.037	0.216	0.322	0.354
1963	0.029	0.407	0.512	0.295
1964	0.027	0.264	0.275	0.408
1965	0.059	0.266	0.399	0.284
1966	0.006	0.200	0.233	0.182
1967	0.007	0.164	0.324	0.255
1968	0.006	0.213	0.282	0.220
1969	0.006	0.205	0.280	0.241
1970	.	0.269	0.306	0.177
1971	.	0.162	0.304	0.213
1972	.	0.166	0.276	0.153
1973	.	0.060	0.249	0.166
1974	0.005	0.078	0.219	0.099
1975	.	0.055	0.302	0.113
1976	0.006	0.069	0.323	0.152
1977	.	0.032	0.259	0.082
1978	.	0.093	0.253	0.088
1979	.	0.030	0.290	0.082
1980	.	0.043	0.264	0.046
1981	.	0.094	0.215	0.032
1982	.	0.058	0.231	0.053

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.468
.	.	.	6.161
.	.	.	7.660
.	.	.	5.857
.	.	.	7.172
.	.	.	6.891
.	.	.	5.815
.	.	.	7.938
.	.	.	6.308
.	.	.	8.459
.	.	.	8.838
.	.	.	7.027
.	.	.	7.893
.	.	.	6.260
.	.	.	5.710
0.248	.	.	6.264
0.111	.	.	3.281
0.206	.	.	6.674
0.262	.	.	8.955
0.249	0.126	.	6.744
0.257	0.099	0.022	6.929
0.191	0.142	.	4.778
0.177	0.044	.	4.853
0.192	0.083	0.020	5.078
0.114	0.052	.	4.491
0.184	0.077	0.017	5.149
0.136	0.064	0.016	4.475
0.107	0.082	.	3.920
0.098	0.015	.	2.941
0.057	.	.	2.291
0.022	0.017	.	2.540
0.041	.	.	2.952
0.054	.	0.014	2.201
0.017	.	.	2.251
0.008	0.011	.	2.110
.	.	.	1.764
.	.	.	1.706
.	0.018	.	1.802

Basic Table 4.A. Total Hebei Province (3): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.056	•	•	•
1941	0.065	•	•	•
1942	0.085	•	•	•
1943	0.063	•	•	•
1944	0.049	•	•	•
1945	0.078	0.248	•	•
1946	0.077	0.194	•	•
1947	0.073	0.261	•	•
1948	0.066	0.199	•	•
1949	0.102	0.262	•	•
1950	0.075	0.251	0.247	•
1951	0.092	0.213	0.244	•
1952	0.112	0.307	0.274	•
1953	0.093	0.265	0.240	•
1954	0.098	0.243	0.276	•
1955	0.101	0.292	0.283	0.242
1956	0.081	0.291	0.258	0.217
1957	0.083	0.270	0.278	0.256
1958	0.070	0.248	0.260	0.229
1959	0.057	0.200	0.203	0.162
1960	0.042	0.234	0.224	0.174
1961	0.029	0.114	0.133	0.096
1962	0.040	0.240	0.285	0.213
1963	0.058	0.336	0.361	0.325
1964	0.053	0.261	0.276	0.268
1965	0.051	0.266	0.305	0.267
1966	0.034	0.241	0.312	0.221
1967	0.024	0.225	0.274	0.225
1968	0.028	0.239	0.304	0.263
1969	0.023	0.205	0.284	0.218
1970	0.019	0.261	0.307	0.247
1971	0.021	0.223	0.295	0.230
1972	0.017	0.189	0.279	0.190
1973	0.010	0.182	0.257	0.167
1974	0.010	0.156	0.217	0.111
1975	0.007	0.119	0.216	0.094
1976	0.006	0.127	0.223	0.100
1977	0.009	0.103	0.202	0.096
1978	0.005	0.115	0.233	0.083
1979	0.004	0.119	0.224	0.084
1980	0.002	0.129	0.232	0.081
1981	0.010	0.178	0.277	0.108
1982	0.009	0.151	0.225	0.101

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.084
.	.	.	4.360
.	.	.	5.034
.	.	.	3.916
.	.	.	5.607
.	.	.	5.144
.	.	.	4.925
.	.	.	5.998
.	.	.	5.280
.	.	.	5.760
.	.	.	5.891
.	.	.	5.561
.	.	.	5.688
.	.	.	5.456
.	.	.	4.142
0.145	.	.	4.463
0.072	.	.	2.409
0.128	.	.	4.829
0.248	.	.	7.276
0.172	0.109	0.008	5.735
0.178	0.108	0.009	5.919
0.184	0.082	0.008	5.404
0.147	0.054	0.009	4.793
0.171	0.068	0.009	5.412
0.156	0.057	0.009	4.762
0.185	0.074	0.007	5.496
0.158	0.064	0.003	4.963
0.146	0.052	0.005	4.387
0.103	0.043	0.003	3.822
0.063	0.027	0.002	2.922
0.048	0.027	0.002	2.565
0.036	0.016	0.001	2.546
0.044	0.010	0.001	2.325
0.028	0.011	0.002	2.386
0.026	0.007	0.001	2.325
0.027	0.005	0.002	2.383
0.035	0.010	.	3.065
0.030	0.016	.	2.661

Basic Table 4.B. Urban Hebei Province (3): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.026	.	.	.
1941	0.039	.	.	.
1942	0.087	.	.	.
1943	0.038	.	.	.
1944	0.050	.	.	.
1945	0.100	0.232	.	.
1946	0.058	0.195	.	.
1947	0.036	0.198	.	.
1948	0.049	0.152	.	.
1949	0.079	0.237	.	.
1950	0.098	0.249	0.168	.
1951	0.109	0.202	0.352	.
1952	0.136	0.218	0.161	.
1953	0.073	0.213	0.241	.
1954	0.034	0.357	0.250	.
1955	0.062	0.227	0.361	0.220
1956	0.027	0.301	0.231	0.209
1957	0.042	0.273	0.291	0.273
1958	0.057	0.212	0.278	0.241
1959	0.025	0.162	0.222	0.187
1960	0.024	0.221	0.242	0.187
1961	0.016	0.087	0.100	0.086
1962	0.016	0.167	0.321	0.209
1963	0.015	0.307	0.365	0.262
1964	0.015	0.212	0.236	0.191
1965	0.028	0.163	0.207	0.113
1966	.	0.130	0.255	0.125
1967	.	0.172	0.209	0.144
1968	0.015	0.137	0.339	0.139
1969	0.009	0.099	0.237	0.162
1970	.	0.162	0.285	0.152
1971	0.004	0.112	0.268	0.161
1972	.	0.088	0.242	0.097
1973	.	0.067	0.198	0.105
1974	.	0.050	0.152	0.068
1975	.	0.037	0.211	0.057
1976	.	0.026	0.151	0.057
1977	.	0.054	0.159	0.078
1978	.	0.019	0.200	0.092
1979	0.004	0.043	0.153	0.076
1980	.	0.032	0.212	0.049
1981	.	0.142	0.347	0.066
1982	.	0.133	0.180	0.057

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.500
.	.	.	3.039
.	.	.	4.963
.	.	.	4.200
.	.	.	4.533
.	.	.	4.931
.	.	.	6.050
.	.	.	4.936
.	.	.	5.945
.	.	.	7.253
.	.	.	5.641
.	.	.	4.957
.	.	.	6.374
.	.	.	6.028
.	.	.	4.273
0.142	.	.	4.618
0.091	.	.	2.173
0.124	.	.	4.486
0.330	.	.	7.204
0.112	0.064	.	4.146
0.100	0.065	.	3.376
0.077	0.052	0.014	3.263
0.073	.	0.013	3.055
0.164	0.101	.	4.481
0.056	0.012	.	2.872
0.098	0.050	.	3.732
0.067	0.029	.	3.201
0.064	0.036	.	2.642
0.015	0.008	.	1.966
0.027	.	.	1.481
0.014	.	.	1.597
0.020	0.008	.	1.316
0.007	.	.	1.488
0.024	.	.	1.678
0.034	.	.	1.549
.	.	.	1.470
.	.	.	2.778
.	.	.	1.850

Basic Table 4.C. Rural Hebei Province (3): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.059	.	.	.
1941	0.067	.	.	.
1942	0.085	.	.	.
1943	0.065	.	.	.
1944	0.049	.	.	.
1945	0.076	0.250	.	.
1946	0.079	0.193	.	.
1947	0.077	0.267	.	.
1948	0.068	0.203	.	.
1949	0.104	0.264	.	.
1950	0.072	0.251	0.255	.
1951	0.090	0.214	0.234	.
1952	0.109	0.317	0.284	.
1953	0.096	0.271	0.240	.
1954	0.107	0.229	0.279	.
1955	0.107	0.300	0.276	0.244
1956	0.089	0.290	0.261	0.217
1957	0.089	0.270	0.277	0.255
1958	0.071	0.253	0.257	0.228
1959	0.061	0.205	0.201	0.160
1960	0.045	0.236	0.222	0.173
1961	0.031	0.118	0.136	0.097
1962	0.042	0.250	0.281	0.214
1963	0.062	0.340	0.360	0.333
1964	0.056	0.268	0.282	0.277
1965	0.053	0.279	0.319	0.286
1966	0.036	0.253	0.321	0.232
1967	0.027	0.230	0.284	0.234
1968	0.029	0.248	0.300	0.278
1969	0.025	0.214	0.290	0.226
1970	0.021	0.270	0.310	0.260
1971	0.022	0.232	0.298	0.240
1972	0.019	0.198	0.282	0.203
1973	0.011	0.192	0.263	0.175
1974	0.011	0.167	0.222	0.116
1975	0.008	0.127	0.217	0.098
1976	0.007	0.138	0.229	0.105
1977	0.010	0.109	0.206	0.097
1978	0.006	0.125	0.236	0.083
1979	0.004	0.128	0.231	0.084
1980	0.002	0.140	0.234	0.083
1981	0.011	0.182	0.269	0.111
1982	0.009	0.153	0.230	0.105

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.952
.	.	.	4.491
.	.	.	5.041
.	.	.	3.887
.	.	.	5.715
.	.	.	5.166
.	.	.	4.811
.	.	.	6.108
.	.	.	5.209
.	.	.	5.596
.	.	.	5.918
.	.	.	5.629
.	.	.	5.610
.	.	.	5.392
.	.	.	4.128
0.145	.	.	4.445
0.071	.	.	2.436
0.128	.	.	4.867
0.241	.	.	7.284
0.177	0.113	0.009	5.908
0.185	0.112	0.010	6.213
0.195	0.084	0.008	5.641
0.155	0.059	0.008	4.987
0.172	0.065	0.011	5.516
0.168	0.060	0.010	4.967
0.195	0.076	0.007	5.694
0.168	0.067	0.003	5.154
0.155	0.053	0.006	4.584
0.114	0.047	0.003	4.026
0.068	0.030	0.002	3.076
0.053	0.030	0.002	2.677
0.039	0.016	0.001	2.675
0.049	0.011	0.001	2.418
0.028	0.012	0.002	2.461
0.025	0.008	0.001	2.405
0.030	0.006	0.002	2.482
0.039	0.011	.	3.116
0.033	0.019	.	2.745

Basic Table 5.A. Total Shanxi Province (4): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.124	.	.	.
1941	0.111	.	.	.
1942	0.128	.	.	.
1943	0.112	.	.	.
1944	0.110	.	.	.
1945	0.105	0.199	.	.
1946	0.114	0.294	.	.
1947	0.110	0.209	.	.
1948	0.108	0.175	.	.
1949	0.111	0.206	.	.
1950	0.115	0.262	0.197	.
1951	0.149	0.258	0.224	.
1952	0.131	0.254	0.245	.
1953	0.158	0.271	0.218	.
1954	0.151	0.259	0.231	.
1955	0.142	0.292	0.230	0.236
1956	0.106	0.274	0.255	0.171
1957	0.154	0.305	0.257	0.231
1958	0.093	0.289	0.215	0.175
1959	0.079	0.235	0.227	0.220
1960	0.094	0.259	0.216	0.144
1961	0.082	0.204	0.200	0.174
1962	0.119	0.321	0.322	0.225
1963	0.125	0.344	0.348	0.254
1964	0.140	0.294	0.270	0.245
1965	0.107	0.282	0.313	0.216
1966	0.088	0.287	0.233	0.195
1967	0.064	0.287	0.339	0.246
1968	0.067	0.304	0.315	0.282
1969	0.077	0.252	0.323	0.233
1970	0.076	0.322	0.269	0.214
1971	0.086	0.313	0.274	0.236
1972	0.060	0.285	0.278	0.198
1973	0.060	0.264	0.251	0.170
1974	0.050	0.261	0.258	0.133
1975	0.025	0.221	0.195	0.096
1976	0.034	0.191	0.205	0.129
1977	0.023	0.173	0.179	0.091
1978	0.012	0.158	0.165	0.077
1979	0.013	0.157	0.163	0.074
1980	0.017	0.173	0.188	0.052
1981	0.021	0.187	0.146	0.050
1982	0.026	0.224	0.210	0.089

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.101
.	.	.	5.097
.	.	.	4.350
.	.	.	3.774
.	.	.	4.649
.	.	.	4.631
.	.	.	4.899
.	.	.	5.110
.	.	.	5.112
.	.	.	5.375
.	.	.	5.667
.	.	.	5.003
.	.	.	5.835
.	.	.	4.873
.	.	.	4.893
0.153	.	.	4.601
0.082	.	.	4.008
0.188	.	.	6.349
0.175	.	.	6.685
0.157	0.091	0.008	6.021
0.174	0.073	0.016	5.911
0.170	0.072	0.003	5.236
0.128	0.069	0.006	5.690
0.185	0.077	0.013	6.210
0.153	0.061	0.010	5.546
0.178	0.073	0.017	5.751
0.147	0.079	0.010	5.726
0.133	0.062	0.002	5.094
0.127	0.060	0.005	4.687
0.080	0.044	0.002	4.140
0.088	0.046	0.009	3.401
0.067	0.029	0.004	3.299
0.058	0.022	0.004	2.750
0.029	0.013	0.007	2.300
0.027	0.013	0.002	2.235
0.016	.	0.005	2.254
0.024	0.002	.	2.159
0.010	0.004	.	2.817

Basic Table 5.B. Urban Shanxi Province (4): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.111	•	•	•
1941	0.066	•	•	•
1942	0.059	•	•	•
1943	0.137	•	•	•
1944	0.051	•	•	•
1945	0.203	0.200	•	•
1946	0.142	0.309	•	•
1947	0.097	0.255	•	•
1948	0.109	0.215	•	•
1949	0.058	0.051	•	•
1950	0.117	0.328	0.177	•
1951	0.122	0.199	0.243	•
1952	0.115	0.262	0.295	•
1953	0.150	0.266	0.234	•
1954	0.095	0.278	0.254	•
1955	0.130	0.308	0.235	0.244
1956	0.044	0.265	0.241	0.177
1957	0.122	0.303	0.290	0.275
1958	0.031	0.265	0.302	0.332
1959	0.075	0.248	0.186	0.186
1960	0.124	0.208	0.180	0.250
1961	0.034	0.192	0.204	0.128
1962	0.035	0.260	0.303	0.235
1963	0.067	0.294	0.358	0.229
1964	0.155	0.225	0.295	0.186
1965	0.108	0.194	0.299	0.149
1966	0.065	0.222	0.163	0.143
1967	0.033	0.138	0.413	0.157
1968	•	0.270	0.186	0.277
1969	0.047	0.140	0.356	0.165
1970	0.022	0.154	0.229	0.156
1971	0.041	0.220	0.188	0.089
1972	0.025	0.178	0.242	0.168
1973	0.025	0.128	0.253	0.108
1974	0.024	0.101	0.171	0.112
1975	0.018	0.093	0.170	0.106
1976	0.026	0.118	0.194	0.085
1977	•	0.114	0.190	0.052
1978	0.007	0.055	0.247	0.067
1979	0.007	0.060	0.109	0.124
1980	•	0.084	0.208	0.062
1981	0.006	0.078	0.131	0.052
1982	•	0.113	0.240	0.022

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.549
•	•	•	5.845
•	•	•	3.928
•	•	•	4.640
•	•	•	3.221
•	•	•	5.024
•	•	•	4.946
•	•	•	5.986
•	•	•	5.141
•	•	•	6.302
•	•	•	5.778
•	•	•	5.114
•	•	•	5.889
•	•	•	6.105
•	•	•	4.576
0.044	•	•	4.418
0.066	•	•	3.508
0.255	•	•	5.951
0.195	•	•	6.163
0.169	0.060	•	5.452
0.109	0.022	•	4.404
0.128	0.022	•	3.709
0.110	0.059	0.023	4.673
0.157	0.020	•	4.546
0.070	0.034	•	4.057
0.106	0.047	•	3.570
0.102	0.071	•	3.553
0.073	0.028	•	3.575
0.046	0.024	•	2.922
•	0.035	•	2.217
0.039	0.011	•	2.182
0.044	0.010	•	2.387
0.031	•	•	1.931
•	•	•	1.884
•	•	•	1.500
•	•	•	1.769
0.017	•	•	1.421
•	•	•	1.873

Basic Table 5.C. Rural Shanxi Province (4): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.126	•	•	•
1941	0.116	•	•	•
1942	0.138	•	•	•
1943	0.109	•	•	•
1944	0.119	•	•	•
1945	0.090	0.199	•	•
1946	0.109	0.292	•	•
1947	0.113	0.203	•	•
1948	0.108	0.169	•	•
1949	0.120	0.230	•	•
1950	0.115	0.252	0.199	•
1951	0.154	0.268	0.221	•
1952	0.134	0.252	0.238	•
1953	0.159	0.272	0.215	•
1954	0.162	0.255	0.228	•
1955	0.144	0.288	0.229	0.235
1956	0.115	0.275	0.258	0.170
1957	0.158	0.305	0.252	0.225
1958	0.102	0.293	0.200	0.153
1959	0.079	0.233	0.235	0.225
1960	0.091	0.268	0.223	0.127
1961	0.088	0.205	0.199	0.182
1962	0.128	0.330	0.326	0.223
1963	0.131	0.351	0.346	0.258
1964	0.138	0.302	0.265	0.255
1965	0.107	0.292	0.316	0.229
1966	0.090	0.294	0.243	0.205
1967	0.068	0.303	0.328	0.264
1968	0.076	0.307	0.334	0.283
1969	0.081	0.264	0.319	0.246
1970	0.084	0.339	0.274	0.224
1971	0.092	0.324	0.284	0.258
1972	0.066	0.297	0.282	0.203
1973	0.065	0.282	0.251	0.179
1974	0.054	0.285	0.267	0.135
1975	0.027	0.240	0.198	0.095
1976	0.035	0.202	0.206	0.134
1977	0.026	0.182	0.178	0.095
1978	0.013	0.175	0.154	0.078
1979	0.013	0.173	0.171	0.068
1980	0.019	0.188	0.185	0.051
1981	0.023	0.205	0.149	0.050
1982	0.030	0.241	0.206	0.097

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.041
•	•	•	4.993
•	•	•	4.408
•	•	•	3.649
•	•	•	4.862
•	•	•	4.571
•	•	•	4.891
•	•	•	4.974
•	•	•	5.108
•	•	•	5.229
•	•	•	5.649
•	•	•	4.986
•	•	•	5.826
•	•	•	4.685
•	•	•	4.940
0.166	•	•	4.628
0.084	•	•	4.082
0.179	•	•	6.406
0.172	•	•	6.759
0.155	0.095	0.008	6.099
0.185	0.079	0.018	6.130
0.178	0.078	0.003	5.459
0.131	0.070	0.003	5.832
0.189	0.085	0.015	6.442
0.168	0.065	0.012	5.773
0.192	0.077	0.019	6.051
0.156	0.080	0.011	6.029
0.144	0.068	0.003	5.314
0.142	0.067	0.005	4.958
0.095	0.046	0.003	4.417
0.096	0.053	0.010	3.593
0.071	0.033	0.005	3.431
0.062	0.027	0.005	2.874
0.033	0.015	0.008	2.375
0.030	0.015	0.002	2.360
0.018	•	0.006	2.335
0.025	0.002	•	2.273
0.011	0.005	•	2.943

Basic Table 6.A. Total Inner Mongolia Province (5): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.164	•	•	•
1941	0.169	•	•	•
1942	0.086	•	•	•
1943	0.103	•	•	•
1944	0.071	•	•	•
1945	0.103	0.272	•	•
1946	0.090	0.257	•	•
1947	0.092	0.302	•	•
1948	0.134	0.218	•	•
1949	0.101	0.251	•	•
1950	0.109	0.274	0.263	•
1951	0.105	0.305	0.245	•
1952	0.116	0.287	0.302	•
1953	0.105	0.300	0.302	•
1954	0.128	0.254	0.279	•
1955	0.101	0.314	0.335	0.289
1956	0.147	0.294	0.302	0.241
1957	0.092	0.280	0.337	0.313
1958	0.097	0.265	0.305	0.230
1959	0.067	0.263	0.273	0.198
1960	0.103	0.235	0.288	0.298
1961	0.042	0.164	0.219	0.178
1962	0.115	0.281	0.320	0.257
1963	0.137	0.303	0.343	0.342
1964	0.101	0.311	0.314	0.254
1965	0.096	0.280	0.280	0.257
1966	0.075	0.267	0.268	0.254
1967	0.047	0.310	0.232	0.217
1968	0.060	0.358	0.357	0.267
1969	0.060	0.292	0.311	0.207
1970	0.060	0.303	0.363	0.245
1971	0.059	0.307	0.257	0.218
1972	0.034	0.270	0.274	0.238
1973	0.034	0.236	0.232	0.178
1974	0.045	0.260	0.279	0.135
1975	0.019	0.208	0.228	0.113
1976	0.020	0.178	0.225	0.085
1977	0.020	0.153	0.218	0.083
1978	0.008	0.137	0.229	0.104
1979	0.005	0.159	0.202	0.080
1980	0.014	0.155	0.210	0.092
1981	0.012	0.192	0.198	0.070
1982	0.022	0.197	0.273	0.121

rates, 1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.567
•	•	•	4.362
•	•	•	5.394
•	•	•	4.685
•	•	•	4.621
•	•	•	4.912
•	•	•	5.144
•	•	•	5.968
•	•	•	5.690
•	•	•	5.844
•	•	•	6.180
•	•	•	6.202
•	•	•	6.695
•	•	•	6.049
•	•	•	5.017
0.225	•	•	6.149
0.088	•	•	3.936
0.235	•	•	6.518
0.237	•	•	7.480
0.191	0.133	0.041	6.726
0.209	0.112	0.043	6.378
0.165	0.084	0.017	5.661
0.136	0.090	0.016	5.240
0.181	0.073	0.005	6.505
0.177	0.109	0.009	5.827
0.163	0.068	0.013	6.075
0.145	0.072	0.008	5.328
0.120	0.062	0.004	5.011
0.121	0.037	0.004	4.201
0.077	0.042	0.004	4.211
0.058	0.050	0.007	3.415
0.041	0.027	•	2.881
0.032	0.023	•	2.646
0.028	0.009	0.003	2.586
0.025	0.024	0.002	2.489
0.026	0.004	•	2.505
0.032	0.004	0.004	2.555
0.023	0.004	•	3.202

Basic Table 6.B. Urban Inner Mongolia Province (5): age-specific

Birth year of child	15–19	20–24	25–29	30–34
1940	0.081	.	.	.
1941	0.071	.	.	.
1942	0.044	.	.	.
1943	0.065	.	.	.
1944	0.044	.	.	.
1945	0.062	0.264	.	.
1946	0.026	0.178	.	.
1947	0.016	0.205	.	.
1948	0.037	0.194	.	.
1949	0.041	0.211	.	.
1950	0.084	0.228	0.102	.
1951	0.045	0.251	0.284	.
1952	0.039	0.236	0.293	.
1953	0.048	0.200	0.272	.
1954	0.034	0.218	0.256	.
1955	0.029	0.215	0.353	0.163
1956	0.035	0.193	0.277	0.284
1957	0.028	0.166	0.318	0.249
1958	0.021	0.200	0.311	0.168
1959	0.027	0.184	0.245	0.100
1960	0.025	0.167	0.268	0.290
1961	0.012	0.083	0.210	0.113
1962	0.059	0.169	0.264	0.253
1963	0.070	0.159	0.331	0.311
1964	0.027	0.221	0.248	0.143
1965	0.018	0.162	0.171	0.155
1966	0.008	0.210	0.213	0.147
1967	0.014	0.198	0.212	0.161
1968	0.006	0.237	0.331	0.196
1969	.	0.225	0.257	0.167
1970	0.018	0.162	0.270	0.167
1971	0.016	0.173	0.181	0.130
1972	.	0.188	0.220	0.197
1973	.	0.074	0.219	0.146
1974	.	0.100	0.144	0.077
1975	.	0.066	0.226	0.069
1976	.	0.035	0.173	0.058
1977	0.003	0.025	0.145	0.059
1978	.	0.036	0.277	0.105
1979	.	0.013	0.120	0.054
1980	.	0.032	0.175	0.099
1981	.	0.036	0.220	0.025
1982	.	0.102	0.330	.

fertility rates, 1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.881
.	.	.	2.667
.	.	.	3.693
.	.	.	3.287
.	.	.	4.698
.	.	.	3.691
.	.	.	4.850
.	.	.	5.774
.	.	.	4.440
.	.	.	5.694
.	.	.	4.867
.	.	.	5.113
.	.	.	5.627
.	.	.	5.500
.	.	.	3.824
0.264	.	.	5.443
0.089	.	.	3.256
0.088	.	.	4.545
0.220	.	.	6.292
0.067	0.068	.	3.867
0.093	0.041	0.031	3.360
0.095	.	.	3.371
0.073	0.044	.	3.517
0.089	0.026	0.028	4.559
0.095	0.011	.	3.774
0.048	0.021	.	3.428
0.085	0.026	.	3.055
0.059	0.024	.	3.438
0.065	.	.	2.524
0.009	.	0.011	1.701
0.029	0.018	.	2.035
0.020	.	.	1.432
0.004	.	.	1.177
0.008	.	.	2.132
0.005	.	.	0.958
0.015	.	.	1.607
0.006	.	.	1.434
.	0.008	.	2.200

Basic Table 6.C. Rural Inner Mongolia Province (5): age-specific

Birth year of child	15–19	20–24	25–29	30–34
1940	0.186	•	•	•
1941	0.197	•	•	•
1942	0.102	•	•	•
1943	0.120	•	•	•
1944	0.083	•	•	•
1945	0.123	0.274	•	•
1946	0.127	0.280	•	•
1947	0.135	0.337	•	•
1948	0.188	0.228	•	•
1949	0.133	0.269	•	•
1950	0.124	0.296	0.307	•
1951	0.140	0.336	0.233	•
1952	0.165	0.316	0.305	•
1953	0.145	0.355	0.315	•
1954	0.198	0.274	0.290	•
1955	0.155	0.371	0.327	0.324
1956	0.239	0.354	0.317	0.228
1957	0.146	0.352	0.348	0.337
1958	0.159	0.311	0.302	0.256
1959	0.097	0.323	0.289	0.243
1960	0.159	0.286	0.299	0.301
1961	0.060	0.232	0.224	0.214
1962	0.139	0.375	0.355	0.260
1963	0.161	0.419	0.351	0.359
1964	0.122	0.380	0.364	0.314
1965	0.117	0.362	0.362	0.316
1966	0.094	0.300	0.314	0.317
1967	0.055	0.360	0.249	0.253
1968	0.076	0.400	0.379	0.317
1969	0.081	0.311	0.353	0.237
1970	0.074	0.340	0.428	0.305
1971	0.074	0.344	0.300	0.291
1972	0.047	0.293	0.298	0.272
1973	0.047	0.283	0.236	0.203
1974	0.063	0.314	0.319	0.180
1975	0.028	0.257	0.228	0.145
1976	0.030	0.227	0.239	0.100
1977	0.028	0.201	0.237	0.094
1978	0.011	0.179	0.214	0.103
1979	0.006	0.217	0.230	0.088
1980	0.019	0.209	0.222	0.090
1981	0.015	0.263	0.190	0.083
1982	0.029	0.238	0.251	0.155

fertility rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.801
.	.	.	4.981
.	.	.	6.039
.	.	.	5.236
.	.	.	4.590
.	.	.	5.429
.	.	.	5.274
.	.	.	6.059
.	.	.	6.306
.	.	.	5.919
.	.	.	6.858
.	.	.	6.791
.	.	.	7.290
.	.	.	6.359
.	.	.	5.684
0.214	.	.	6.540
0.088	.	.	4.308
0.289	.	.	7.574
0.245	.	.	8.098
0.248	0.150	0.050	8.144
0.266	0.132	0.045	7.993
0.205	0.109	0.021	6.796
0.172	0.107	0.019	6.071
0.232	0.092	.	7.480
0.220	0.155	0.012	6.842
0.230	0.092	0.016	7.427
0.180	0.097	0.010	6.482
0.159	0.084	0.005	5.791
0.160	0.057	0.005	4.959
0.128	0.065	.	5.345
0.079	0.069	0.010	4.080
0.059	0.043	.	3.490
0.056	0.037	.	3.271
0.044	0.015	0.004	2.854
0.042	0.042	0.004	3.141
0.034	0.006	.	2.900
0.047	0.007	0.007	3.053
0.032	.	.	3.528

Basic Table 7.A. Total Liaoning Province (6): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.087	•	•	•
1941	0.062	•	•	•
1942	0.058	•	•	•
1943	0.082	•	•	•
1944	0.065	•	•	•
1945	0.071	0.222	•	•
1946	0.068	0.256	•	•
1947	0.086	0.276	•	•
1948	0.076	0.216	•	•
1949	0.103	0.301	•	•
1950	0.114	0.239	0.257	•
1951	0.087	0.256	0.302	•
1952	0.089	0.317	0.329	•
1953	0.093	0.312	0.298	•
1954	0.096	0.306	0.335	•
1955	0.099	0.336	0.373	0.312
1956	0.068	0.294	0.285	0.253
1957	0.083	0.323	0.358	0.329
1958	0.069	0.284	0.297	0.258
1959	0.039	0.230	0.262	0.239
1960	0.046	0.263	0.295	0.245
1961	0.019	0.115	0.147	0.130
1962	0.043	0.265	0.300	0.225
1963	0.071	0.358	0.398	0.377
1964	0.061	0.305	0.313	0.249
1965	0.029	0.262	0.296	0.249
1966	0.033	0.264	0.309	0.213
1967	0.021	0.208	0.273	0.151
1968	0.022	0.240	0.330	0.231
1969	0.026	0.234	0.255	0.204
1970	0.019	0.227	0.288	0.161
1971	0.014	0.227	0.241	0.184
1972	0.013	0.160	0.246	0.168
1973	0.011	0.171	0.239	0.152
1974	0.011	0.125	0.244	0.115
1975	0.007	0.110	0.185	0.077
1976	0.010	0.082	0.198	0.071
1977	0.003	0.094	0.186	0.062
1978	0.004	0.120	0.226	0.074
1979	0.003	0.112	0.223	0.067
1980	0.006	0.102	0.196	0.040
1981	0.003	0.143	0.191	0.035
1982	0.007	0.172	0.201	0.017

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.514
.	.	.	5.314
.	.	.	5.220
.	.	.	4.476
.	.	.	6.278
.	.	.	5.470
.	.	.	5.719
.	.	.	6.117
.	.	.	6.263
.	.	.	6.713
.	.	.	7.342
.	.	.	5.874
.	.	.	7.292
.	.	.	5.821
.	.	.	4.978
0.217	.	.	5.781
0.103	.	.	2.809
0.190	.	.	5.547
0.288	.	.	8.199
0.188	0.144	0.019	6.397
0.188	0.084	0.002	5.542
0.166	0.094	0.011	5.451
0.143	0.077	0.006	4.393
0.154	0.078	0.006	5.305
0.130	0.053	0.011	4.563
0.106	0.041	0.003	4.226
0.091	0.031	0.005	3.963
0.068	0.024	0.001	3.397
0.059	0.036	0.001	3.351
0.050	0.018	0.001	2.816
0.035	0.010	0.004	2.134
0.023	0.006	0.003	1.960
0.025	0.007	.	1.882
0.015	0.014	.	2.266
0.020	0.002	0.001	2.151
0.007	.	.	1.756
0.011	0.003	0.001	1.942
0.008	0.005	.	2.052

Basic Table 7.B. Urban Liaoning Province (6): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.063	.	.	.
1941	0.050	.	.	.
1942	0.059	.	.	.
1943	0.067	.	.	.
1944	0.056	.	.	.
1945	0.061	0.229	.	.
1946	0.066	0.241	.	.
1947	0.067	0.214	.	.
1948	0.053	0.197	.	.
1949	0.108	0.221	.	.
1950	0.078	0.245	0.241	.
1951	0.081	0.251	0.273	.
1952	0.078	0.264	0.324	.
1953	0.088	0.302	0.317	.
1954	0.065	0.286	0.311	.
1955	0.099	0.303	0.377	0.301
1956	0.058	0.280	0.266	0.259
1957	0.057	0.299	0.371	0.258
1958	0.056	0.272	0.279	0.247
1959	0.023	0.201	0.242	0.218
1960	0.037	0.235	0.246	0.199
1961	0.007	0.096	0.158	0.113
1962	0.016	0.218	0.262	0.197
1963	0.033	0.307	0.372	0.374
1964	0.045	0.268	0.276	0.178
1965	0.008	0.189	0.257	0.184
1966	0.009	0.153	0.212	0.081
1967	0.008	0.108	0.210	0.083
1968	0.003	0.162	0.319	0.181
1969	0.006	0.131	0.200	0.112
1970	0.004	0.149	0.263	0.102
1971	0.004	0.142	0.193	0.127
1972	0.001	0.077	0.190	0.124
1973	0.004	0.061	0.227	0.093
1974	.	0.034	0.201	0.081
1975	.	0.022	0.124	0.064
1976	.	0.018	0.151	0.052
1977	0.001	0.030	0.199	0.044
1978	0.001	0.051	0.262	0.072
1979	.	0.018	0.194	0.064
1980	0.003	0.028	0.171	0.033
1981	0.005	0.076	0.202	0.021
1982	0.003	0.136	0.234	.

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.383
.	.	.	5.571
.	.	.	4.985
.	.	.	4.129
.	.	.	6.175
.	.	.	5.516
.	.	.	5.674
.	.	.	5.951
.	.	.	6.719
.	.	.	6.431
.	.	.	7.326
.	.	.	5.786
.	.	.	6.680
.	.	.	5.720
.	.	.	4.625
0.174	.	.	4.688
0.086	.	.	2.473
0.152	.	.	4.517
0.244	.	.	7.423
0.096	0.097	.	4.800
0.107	0.043	.	3.938
0.072	0.050	0.005	2.917
0.070	0.021	0.005	2.516
0.071	0.033	.	3.849
0.075	0.028	0.004	2.785
0.041	0.009	.	2.841
0.053	0.009	.	2.638
0.044	0.006	.	2.209
0.022	0.012	.	2.099
0.023	.	.	1.695
0.011	.	.	1.101
0.006	0.005	.	1.162
0.014	.	.	1.445
0.003	0.010	.	1.998
0.013	.	.	1.441
0.007	.	.	1.205
0.003	.	.	1.533
0.006	.	.	1.897

Basic Table 7.C. Rural Liaoning Province (6): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.104	•	•	•
1941	0.070	•	•	•
1942	0.058	•	•	•
1943	0.093	•	•	•
1944	0.072	•	•	•
1945	0.079	0.217	•	•
1946	0.070	0.267	•	•
1947	0.101	0.321	•	•
1948	0.095	0.229	•	•
1949	0.099	0.360	•	•
1950	0.146	0.235	0.269	•
1951	0.092	0.261	0.323	•
1952	0.100	0.359	0.334	•
1953	0.097	0.319	0.284	•
1954	0.122	0.323	0.353	•
1955	0.099	0.365	0.369	0.321
1956	0.075	0.307	0.298	0.248
1957	0.100	0.346	0.347	0.382
1958	0.076	0.295	0.312	0.265
1959	0.047	0.256	0.279	0.254
1960	0.051	0.286	0.340	0.279
1961	0.025	0.130	0.138	0.143
1962	0.056	0.295	0.335	0.246
1963	0.089	0.388	0.421	0.380
1964	0.069	0.326	0.345	0.312
1965	0.038	0.299	0.327	0.307
1966	0.045	0.320	0.381	0.329
1967	0.027	0.257	0.313	0.215
1968	0.032	0.278	0.337	0.279
1969	0.038	0.282	0.286	0.283
1970	0.028	0.265	0.300	0.209
1971	0.021	0.268	0.265	0.227
1972	0.021	0.202	0.273	0.197
1973	0.016	0.232	0.244	0.186
1974	0.019	0.179	0.264	0.133
1975	0.012	0.166	0.214	0.084
1976	0.017	0.125	0.220	0.080
1977	0.005	0.139	0.179	0.070
1978	0.006	0.170	0.206	0.075
1979	0.006	0.184	0.241	0.069
1980	0.008	0.159	0.213	0.043
1981	0.002	0.194	0.184	0.042
1982	0.010	0.197	0.178	0.027

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.612
•	•	•	5.120
•	•	•	5.397
•	•	•	4.739
•	•	•	6.358
•	•	•	5.433
•	•	•	5.755
•	•	•	6.251
•	•	•	5.895
•	•	•	6.940
•	•	•	7.356
•	•	•	5.942
•	•	•	7.759
•	•	•	5.896
•	•	•	5.240
0.249	•	•	6.575
0.116	•	•	3.050
0.217	•	•	6.269
0.320	•	•	8.732
0.256	0.179	0.033	7.594
0.249	0.113	0.004	6.684
0.237	0.127	0.016	7.266
0.199	0.119	0.007	5.690
0.222	0.110	0.010	6.332
0.177	0.072	0.016	5.765
0.164	0.065	0.006	5.183
0.124	0.047	0.008	4.802
0.090	0.037	0.003	4.115
0.094	0.056	0.002	4.157
0.073	0.033	0.002	3.516
0.054	0.018	0.007	2.778
0.036	0.007	0.005	2.451
0.031	0.014	•	2.190
0.021	0.018	•	2.485
0.025	0.005	0.002	2.652
0.007	•	•	2.147
0.015	0.006	0.002	2.225
0.009	0.007	•	2.137

Basic Table 8.A. Total Jilin Province (7): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.105	.	.	.
1941	0.099	.	.	.
1942	0.117	.	.	.
1943	0.101	.	.	.
1944	0.081	.	.	.
1945	0.077	0.249	.	.
1946	0.102	0.269	.	.
1947	0.097	0.294	.	.
1948	0.107	0.296	.	.
1949	0.143	0.261	.	.
1950	0.125	0.327	0.319	.
1951	0.112	0.257	0.258	.
1952	0.149	0.302	0.294	.
1953	0.104	0.311	0.353	.
1954	0.126	0.317	0.358	.
1955	0.132	0.350	0.294	0.249
1956	0.073	0.328	0.296	0.307
1957	0.088	0.289	0.342	0.252
1958	0.101	0.345	0.325	0.256
1959	0.090	0.244	0.292	0.238
1960	0.058	0.302	0.364	0.244
1961	0.061	0.198	0.237	0.171
1962	0.061	0.290	0.344	0.291
1963	0.083	0.315	0.364	0.377
1964	0.083	0.283	0.349	0.271
1965	0.067	0.264	0.332	0.303
1966	0.053	0.261	0.280	0.274
1967	0.044	0.259	0.304	0.223
1968	0.066	0.288	0.333	0.292
1969	0.061	0.226	0.341	0.246
1970	0.059	0.336	0.308	0.244
1971	0.049	0.242	0.316	0.265
1972	0.033	0.248	0.337	0.201
1973	0.040	0.225	0.261	0.146
1974	0.038	0.222	0.214	0.119
1975	0.016	0.143	0.204	0.087
1976	0.016	0.182	0.189	0.067
1977	0.010	0.141	0.190	0.069
1978	0.020	0.170	0.222	0.061
1979	0.010	0.196	0.231	0.076
1980	0.008	0.135	0.169	0.036
1981	0.005	0.187	0.182	0.027
1982	0.008	0.186	0.162	0.022

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.694
.	.	.	6.139
.	.	.	6.357
.	.	.	6.033
.	.	.	6.242
.	.	.	7.098
.	.	.	6.300
.	.	.	6.677
.	.	.	7.178
.	.	.	7.409
.	.	.	6.883
.	.	.	6.958
.	.	.	6.979
.	.	.	6.955
.	.	.	5.699
0.221	.	.	6.669
0.167	.	.	4.843
0.191	.	.	6.804
0.306	.	.	8.447
0.179	0.118	0.031	6.570
0.211	0.113	0.026	6.580
0.207	0.121	0.023	6.095
0.191	0.110	0.020	5.754
0.183	0.118	0.009	6.447
0.179	0.104	0.004	5.806
0.181	0.110	0.004	6.208
0.144	0.053	0.008	5.378
0.151	0.074	0.007	5.258
0.106	0.049	0.007	4.165
0.046	0.036	.	3.377
0.032	0.024	.	2.528
0.025	0.023	0.008	2.548
0.042	0.009	0.006	2.329
0.012	0.008	0.005	2.492
0.021	0.004	0.005	2.713
0.010	0.008	.	1.836
0.006	0.004	.	2.054
0.007	0.004	.	1.950

Basic Table 8.B. Urban Jilin Province (7): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.085	•	•	•
1941	0.096	•	•	•
1942	0.179	•	•	•
1943	0.094	•	•	•
1944	0.077	•	•	•
1945	0.055	0.238	•	•
1946	0.053	0.305	•	•
1947	0.108	0.228	•	•
1948	0.087	0.204	•	•
1949	0.133	0.248	•	•
1950	0.081	0.234	0.221	•
1951	0.066	0.278	0.241	•
1952	0.042	0.297	0.310	•
1953	0.046	0.309	0.314	•
1954	0.118	0.311	0.434	•
1955	0.074	0.334	0.221	0.187
1956	0.056	0.304	0.304	0.257
1957	0.043	0.257	0.351	0.244
1958	0.060	0.325	0.309	0.283
1959	0.025	0.189	0.233	0.201
1960	0.014	0.228	0.324	0.248
1961	0.014	0.096	0.222	0.132
1962	0.035	0.240	0.362	0.297
1963	0.026	0.223	0.319	0.408
1964	0.039	0.178	0.360	0.245
1965	0.032	0.187	0.273	0.212
1966	0.010	0.167	0.186	0.164
1967	0.010	0.151	0.224	0.139
1968	0.013	0.173	0.303	0.202
1969	0.021	0.167	0.301	0.165
1970	0.024	0.211	0.308	0.176
1971	0.015	0.117	0.305	0.242
1972	0.008	0.134	0.288	0.182
1973	0.004	0.156	0.247	0.099
1974	•	0.121	0.167	0.104
1975	0.004	0.073	0.197	0.077
1976	0.004	0.080	0.227	0.076
1977	•	0.075	0.258	0.080
1978	•	0.073	0.264	0.069
1979	•	0.042	0.193	0.058
1980	•	0.041	0.132	0.039
1981	•	0.086	0.232	0.020
1982	•	0.153	0.210	0.013

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	9.542
•	•	•	8.850
•	•	•	6.678
•	•	•	7.146
•	•	•	6.700
•	•	•	6.936
•	•	•	6.681
•	•	•	7.017
•	•	•	7.127
•	•	•	9.732
•	•	•	6.259
•	•	•	7.158
•	•	•	6.523
•	•	•	7.538
•	•	•	4.572
0.170	•	•	5.736
0.160	•	•	3.975
0.147	•	•	6.341
0.251	•	•	7.469
0.108	0.133	0.036	5.492
0.179	0.102	•	4.932
0.066	0.032	0.029	3.269
0.054	0.081	0.023	3.412
0.074	0.063	•	4.139
0.111	•	•	3.826
0.051	0.014	•	3.918
0.057	0.040	•	3.879
0.063	0.013	•	3.435
0.039	•	•	2.728
0.012	•	•	2.017
0.023	•	•	1.868
0.023	0.016	0.013	2.199
0.027	0.007	•	2.235
•	•	•	2.030
0.005	•	•	1.494
•	0.006	•	1.092
•	•	•	1.690
•	•	•	1.879

Basic Table 8.C. Rural Jilin Province (7): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.111	.	.	.
1941	0.099	.	.	.
1942	0.100	.	.	.
1943	0.103	.	.	.
1944	0.082	.	.	.
1945	0.083	0.252	.	.
1946	0.115	0.258	.	.
1947	0.094	0.312	.	.
1948	0.112	0.321	.	.
1949	0.146	0.264	.	.
1950	0.139	0.352	0.348	.
1951	0.129	0.252	0.263	.
1952	0.196	0.304	0.290	.
1953	0.132	0.312	0.364	.
1954	0.131	0.319	0.338	.
1955	0.167	0.355	0.314	0.267
1956	0.083	0.338	0.294	0.323
1957	0.116	0.303	0.340	0.254
1958	0.128	0.354	0.329	0.248
1959	0.132	0.275	0.309	0.247
1960	0.088	0.346	0.377	0.242
1961	0.093	0.259	0.243	0.182
1962	0.080	0.319	0.337	0.289
1963	0.120	0.376	0.385	0.368
1964	0.112	0.351	0.343	0.279
1965	0.089	0.315	0.366	0.332
1966	0.078	0.324	0.335	0.316
1967	0.061	0.337	0.352	0.260
1968	0.092	0.362	0.353	0.335
1969	0.078	0.263	0.367	0.291
1970	0.073	0.411	0.309	0.283
1971	0.061	0.312	0.324	0.279
1972	0.041	0.306	0.372	0.213
1973	0.052	0.257	0.270	0.177
1974	0.051	0.265	0.243	0.129
1975	0.020	0.170	0.208	0.094
1976	0.020	0.218	0.167	0.061
1977	0.013	0.163	0.156	0.060
1978	0.026	0.201	0.203	0.056
1979	0.014	0.245	0.246	0.087
1980	0.011	0.164	0.183	0.035
1981	0.007	0.218	0.164	0.030
1982	0.011	0.197	0.147	0.026

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.914
.	.	.	5.398
.	.	.	6.270
.	.	.	5.727
.	.	.	6.115
.	.	.	7.145
.	.	.	6.183
.	.	.	6.566
.	.	.	7.195
.	.	.	6.593
.	.	.	7.109
.	.	.	6.883
.	.	.	7.156
.	.	.	6.718
.	.	.	6.167
0.237	.	.	7.066
0.169	.	.	5.219
0.204	.	.	7.014
0.321	.	.	8.892
0.198	0.114	0.029	7.130
0.220	0.116	0.033	7.354
0.245	0.149	0.021	7.338
0.228	0.118	0.019	6.874
0.214	0.133	0.012	7.502
0.199	0.132	0.005	6.677
0.222	0.136	0.005	7.197
0.177	0.056	0.010	6.093
0.190	0.090	0.009	6.109
0.138	0.063	0.009	4.824
0.065	0.047	.	3.997
0.037	0.032	.	2.802
0.027	0.025	0.007	2.619
0.052	0.009	0.007	2.299
0.020	0.013	0.007	2.621
0.032	0.007	0.007	3.188
0.016	0.010	.	2.096
0.010	0.007	.	2.179
0.013	0.006	.	2.000

Basic Table 9.A. Total Heilongjiang Province (8): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.075	.	.	.
1941	0.069	.	.	.
1942	0.077	.	.	.
1943	0.093	.	.	.
1944	0.068	.	.	.
1945	0.099	0.285	.	.
1946	0.104	0.219	.	.
1947	0.092	0.339	.	.
1948	0.108	0.277	.	.
1949	0.134	0.311	.	.
1950	0.154	0.285	0.306	.
1951	0.100	0.286	0.265	.
1952	0.109	0.321	0.339	.
1953	0.110	0.280	0.243	.
1954	0.102	0.288	0.302	.
1955	0.088	0.331	0.283	0.311
1956	0.096	0.297	0.324	0.243
1957	0.102	0.345	0.297	0.318
1958	0.100	0.327	0.304	0.255
1959	0.107	0.275	0.255	0.214
1960	0.091	0.289	0.326	0.251
1961	0.063	0.227	0.236	0.198
1962	0.071	0.283	0.327	0.272
1963	0.086	0.344	0.358	0.286
1964	0.077	0.312	0.286	0.239
1965	0.056	0.302	0.286	0.241
1966	0.073	0.239	0.308	0.267
1967	0.064	0.275	0.286	0.220
1968	0.073	0.315	0.364	0.242
1969	0.058	0.282	0.299	0.211
1970	0.070	0.312	0.286	0.201
1971	0.053	0.274	0.299	0.184
1972	0.042	0.289	0.284	0.231
1973	0.039	0.258	0.317	0.204
1974	0.030	0.264	0.258	0.160
1975	0.031	0.234	0.212	0.101
1976	0.026	0.186	0.193	0.075
1977	0.016	0.178	0.177	0.078
1978	0.015	0.185	0.187	0.085
1979	0.014	0.193	0.232	0.093
1980	0.016	0.196	0.174	0.041
1981	0.021	0.205	0.167	0.043
1982	0.026	0.238	0.203	0.052

rates, 1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.923
.	.	.	4.954
.	.	.	5.735
.	.	.	5.509
.	.	.	6.370
.	.	.	6.670
.	.	.	5.960
.	.	.	6.820
.	.	.	5.756
.	.	.	6.784
.	.	.	6.451
.	.	.	6.727
.	.	.	7.126
.	.	.	6.427
.	.	.	5.824
0.283	.	.	6.918
0.133	.	.	4.789
0.234	.	.	6.734
0.261	.	.	7.404
0.203	0.130	0.018	6.321
0.229	0.090	0.015	6.096
0.190	0.102	0.021	5.999
0.153	0.098	0.013	5.539
0.202	0.098	0.018	6.562
0.137	0.086	0.011	5.414
0.166	0.076	0.013	5.619
0.138	0.067	0.012	5.145
0.154	0.071	0.005	5.377
0.111	0.059	0.007	4.971
0.068	0.049	0.005	4.165
0.058	0.023	0.004	3.317
0.032	0.025	0.002	2.699
0.038	0.011	0.002	2.499
0.029	0.016	0.002	2.591
0.016	0.015	0.007	2.849
0.012	0.004	0.002	2.226
0.012	0.007	.	2.273
0.005	0.009	.	2.669

Basic Table 9.B. Urban Heilongjiang Province (8): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.053	•	•	•
1941	0.032	•	•	•
1942	0.038	•	•	•
1943	0.080	•	•	•
1944	0.046	•	•	•
1945	0.086	0.258	•	•
1946	0.063	0.219	•	•
1947	0.080	0.299	•	•
1948	0.110	0.278	•	•
1949	0.081	0.283	•	•
1950	0.102	0.271	0.365	•
1951	0.061	0.270	0.235	•
1952	0.058	0.273	0.291	•
1953	0.106	0.244	0.278	•
1954	0.069	0.238	0.310	•
1955	0.053	0.292	0.302	0.347
1956	0.043	0.280	0.304	0.325
1957	0.071	0.295	0.278	0.322
1958	0.057	0.328	0.311	0.285
1959	0.054	0.230	0.242	0.178
1960	0.038	0.280	0.271	0.246
1961	0.052	0.172	0.253	0.161
1962	0.038	0.226	0.313	0.283
1963	0.071	0.330	0.396	0.287
1964	0.026	0.258	0.278	0.211
1965	0.023	0.260	0.249	0.191
1966	0.027	0.149	0.251	0.149
1967	0.022	0.236	0.212	0.158
1968	0.015	0.190	0.327	0.212
1969	0.014	0.158	0.251	0.158
1970	0.018	0.248	0.279	0.161
1971	0.014	0.155	0.253	0.133
1972	0.004	0.204	0.215	0.152
1973	0.010	0.187	0.309	0.167
1974	0.006	0.167	0.209	0.136
1975	0.004	0.104	0.184	0.092
1976	0.004	0.102	0.176	0.052
1977	0.007	0.097	0.194	0.072
1978	0.002	0.073	0.216	0.071
1979	0.002	0.069	0.220	0.077
1980	0.003	0.095	0.172	0.038
1981	0.007	0.116	0.159	0.027
1982	0.012	0.169	0.189	0.055

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.368
.	.	.	4.809
.	.	.	4.442
.	.	.	6.880
.	.	.	5.140
.	.	.	7.684
.	.	.	5.774
.	.	.	6.374
.	.	.	6.257
.	.	.	7.163
.	.	.	6.469
.	.	.	7.215
.	.	.	6.875
.	.	.	6.906
.	.	.	4.965
0.222	.	.	6.307
0.138	.	.	4.495
0.222	.	.	6.285
0.241	.	.	7.280
0.132	0.080	0.032	5.081
0.166	0.089	0.026	5.014
0.115	0.049	0.013	3.766
0.102	0.054	0.036	4.093
0.115	0.058	.	4.583
0.076	0.026	0.010	3.463
0.089	0.037	.	4.161
0.084	0.034	.	3.371
0.086	0.037	.	3.492
0.068	0.010	.	3.755
0.041	0.027	.	2.928
0.025	0.004	.	2.064
0.032	0.015	.	1.907
0.025	0.004	.	1.993
0.007	0.007	.	1.873
0.014	.	.	1.905
0.004	.	.	1.558
0.008	0.004	.	1.599
.	.	.	2.125

Basic Table 9.C. Rural Heilongjiang Province (8): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.083	•	•	•
1941	0.084	•	•	•
1942	0.094	•	•	•
1943	0.099	•	•	•
1944	0.079	•	•	•
1945	0.107	0.296	•	•
1946	0.127	0.219	•	•
1947	0.100	0.357	•	•
1948	0.106	0.277	•	•
1949	0.168	0.325	•	•
1950	0.190	0.293	0.282	•
1951	0.130	0.295	0.277	•
1952	0.151	0.349	0.361	•
1953	0.113	0.303	0.228	•
1954	0.128	0.321	0.297	•
1955	0.115	0.359	0.273	0.296
1956	0.133	0.311	0.336	0.209
1957	0.125	0.385	0.308	0.317
1958	0.129	0.326	0.300	0.241
1959	0.143	0.312	0.263	0.232
1960	0.123	0.296	0.365	0.253
1961	0.070	0.265	0.223	0.219
1962	0.088	0.323	0.339	0.265
1963	0.092	0.353	0.326	0.285
1964	0.096	0.347	0.293	0.257
1965	0.069	0.328	0.314	0.276
1966	0.089	0.290	0.348	0.359
1967	0.078	0.293	0.338	0.269
1968	0.093	0.367	0.390	0.268
1969	0.073	0.329	0.331	0.254
1970	0.089	0.336	0.291	0.231
1971	0.068	0.318	0.325	0.220
1972	0.057	0.319	0.318	0.288
1973	0.051	0.283	0.320	0.229
1974	0.042	0.298	0.276	0.176
1975	0.044	0.280	0.223	0.107
1976	0.037	0.218	0.200	0.088
1977	0.021	0.210	0.170	0.081
1978	0.022	0.234	0.177	0.090
1979	0.021	0.251	0.237	0.099
1980	0.023	0.247	0.175	0.042
1981	0.028	0.250	0.170	0.048
1982	0.033	0.277	0.209	0.051

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.720
.	.	.	5.020
.	.	.	6.347
.	.	.	4.838
.	.	.	6.995
.	.	.	6.133
.	.	.	6.063
.	.	.	7.071
.	.	.	5.465
.	.	.	6.562
.	.	.	6.441
.	.	.	6.442
.	.	.	7.277
.	.	.	6.138
.	.	.	6.341
0.307	.	.	7.279
0.132	.	.	4.959
0.239	.	.	6.991
0.271	.	.	7.473
0.239	0.149	0.013	6.971
0.263	0.090	0.010	6.754
0.231	0.125	0.024	7.328
0.184	0.118	0.004	6.424
0.257	0.115	0.025	7.577
0.176	0.116	0.011	6.451
0.220	0.097	0.018	6.403
0.181	0.086	0.017	6.076
0.208	0.090	0.007	6.434
0.147	0.091	0.010	5.654
0.089	0.064	0.007	4.756
0.084	0.036	0.007	3.900
0.033	0.033	0.003	3.058
0.048	0.017	0.003	2.756
0.044	0.023	0.003	2.966
0.017	0.028	0.012	3.316
0.016	0.008	0.003	2.568
0.013	0.010	.	2.604
0.008	0.015	.	2.959

Basic Table 10.A. Total Shanghai Province (9): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.059	•	•	•
1941	0.055	•	•	•
1942	0.062	•	•	•
1943	0.049	•	•	•
1944	0.066	•	•	•
1945	0.050	0.200	•	•
1946	0.034	0.267	•	•
1947	0.078	0.251	•	•
1948	0.057	0.259	•	•
1949	0.059	0.240	•	•
1950	0.078	0.249	0.296	•
1951	0.054	0.194	0.241	•
1952	0.067	0.243	0.319	•
1953	0.051	0.235	0.283	•
1954	0.074	0.275	0.303	•
1955	0.042	0.230	0.314	0.240
1956	0.073	0.210	0.247	0.177
1957	0.051	0.269	0.333	0.273
1958	0.033	0.206	0.258	0.189
1959	0.021	0.205	0.192	0.126
1960	0.033	0.129	0.209	0.100
1961	0.018	0.177	0.185	0.132
1962	0.016	0.199	0.210	0.159
1963	0.020	0.197	0.252	0.178
1964	0.020	0.157	0.186	0.088
1965	0.012	0.142	0.178	0.099
1966	0.004	0.122	0.223	0.126
1967	0.002	0.096	0.164	0.062
1968	0.005	0.162	0.223	0.122
1969	0.003	0.120	0.225	0.087
1970	0.003	0.130	0.218	0.080
1971	0.003	0.130	0.169	0.065
1972	0.001	0.061	0.151	0.051
1973	0.001	0.078	0.152	0.059
1974	•	0.051	0.133	0.068
1975	•	0.050	0.116	0.046
1976	0.003	0.046	0.141	0.053
1977	0.002	0.046	0.129	0.035
1978	•	0.045	0.135	0.052
1979	•	0.050	0.122	0.063
1980	•	0.033	0.113	0.018
1981	•	0.065	0.140	0.032
1982	0.005	0.071	0.142	0.039

rates, 1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.637
•	•	•	5.108
•	•	•	5.748
•	•	•	5.528
•	•	•	5.868
•	•	•	5.604
•	•	•	5.098
•	•	•	5.848
•	•	•	5.391
•	•	•	6.297
•	•	•	5.590
•	•	•	4.466
•	•	•	6.317
•	•	•	4.426
•	•	•	3.380
0.079	•	•	2.901
0.064	•	•	2.904
0.065	•	•	3.452
0.131	•	•	4.173
0.039	0.020	•	2.555
0.056	0.023	•	2.552
0.048	0.023	•	2.724
0.038	0.006	•	1.837
0.045	0.015	•	2.860
0.035	0.003	•	2.359
0.021	0.003	•	2.280
0.013	0.006	•	1.930
0.019	0.006	•	1.446
0.014	0.006	•	1.556
0.003	•	•	1.275
0.003	0.008	•	1.122
0.008	•	•	1.257
0.023	•	•	1.174
0.007	•	0.003	1.211
0.007	0.003	•	1.227
0.007	0.003	•	0.869
0.003	•	•	1.201
0.010	•	•	1.336

Basic Table 10.B. Urban Shanghai Province (9): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.070	•	•	•
1941	0.066	•	•	•
1942	0.068	•	•	•
1943	0.045	•	•	•
1944	0.057	•	•	•
1945	0.034	0.207	•	•
1946	0.031	0.232	•	•
1947	0.063	0.241	•	•
1948	0.055	0.268	•	•
1949	0.064	0.214	•	•
1950	0.078	0.248	0.272	•
1951	0.048	0.230	0.213	•
1952	0.052	0.209	0.323	•
1953	0.055	0.223	0.304	•
1954	0.067	0.265	0.284	•
1955	0.040	0.241	0.315	0.235
1956	0.075	0.215	0.234	0.189
1957	0.031	0.228	0.311	0.237
1958	0.029	0.199	0.239	0.170
1959	0.022	0.191	0.187	0.087
1960	0.021	0.131	0.215	0.113
1961	0.024	0.145	0.197	0.138
1962	0.004	0.189	0.179	0.110
1963	0.008	0.117	0.202	0.121
1964	0.004	0.095	0.142	0.067
1965	0.006	0.064	0.136	0.048
1966	•	0.053	0.127	0.070
1967	•	0.069	0.147	0.049
1968	•	0.117	0.211	0.078
1969	0.002	0.066	0.212	0.062
1970	0.002	0.068	0.196	0.066
1971	0.002	0.076	0.149	0.064
1972	•	0.034	0.100	0.049
1973	0.002	0.031	0.121	0.076
1974	•	0.019	0.117	0.084
1975	•	0.022	0.094	0.048
1976	•	0.008	0.103	0.058
1977	•	0.012	0.092	0.039
1978	•	0.004	0.114	0.061
1979	•	0.002	0.065	0.073
1980	•	0.007	0.080	0.029
1981	•	0.010	0.118	0.049
1982	•	0.022	0.148	0.055

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.425
.	.	.	4.801
.	.	.	5.894
.	.	.	5.420
.	.	.	6.213
.	.	.	5.444
.	.	.	5.339
.	.	.	5.683
.	.	.	5.719
.	.	.	5.937
.	.	.	5.408
.	.	.	4.462
.	.	.	5.680
.	.	.	4.236
.	.	.	2.909
0.061	.	.	2.762
0.061	.	.	2.872
0.027	.	.	2.611
0.076	.	.	2.761
0.009	0.005	.	1.606
0.017	.	.	1.358
0.023	.	.	1.369
0.016	.	.	1.402
0.023	.	.	2.145
0.019	0.004	.	1.828
0.019	.	.	1.754
0.015	0.004	.	1.548
0.015	0.004	.	1.005
0.012	.	.	1.209
.	.	.	1.098
0.005	0.007	.	0.880
.	.	.	0.847
0.037	.	.	0.900
0.006	.	0.004	0.943
0.011	0.004	.	0.781
0.011	0.005	.	0.660
0.005	.	.	0.908
0.017	.	.	1.214

Basic Table 10.C. Rural Shanghai Province (9): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.033	.	.	.
1941	0.030	.	.	.
1942	0.049	.	.	.
1943	0.057	.	.	.
1944	0.087	.	.	.
1945	0.087	0.186	.	.
1946	0.042	0.342	.	.
1947	0.120	0.273	.	.
1948	0.062	0.239	.	.
1949	0.047	0.299	.	.
1950	0.077	0.252	0.350	.
1951	0.068	0.094	0.302	.
1952	0.105	0.338	0.312	.
1953	0.041	0.267	0.239	.
1954	0.093	0.299	0.347	.
1955	0.046	0.203	0.311	0.252
1956	0.068	0.195	0.282	0.151
1957	0.087	0.374	0.393	0.351
1958	0.041	0.227	0.308	0.229
1959	0.020	0.244	0.206	0.212
1960	0.052	0.125	0.194	0.068
1961	0.008	0.239	0.156	0.115
1962	0.034	0.217	0.288	0.294
1963	0.039	0.336	0.382	0.328
1964	0.047	0.267	0.302	0.140
1965	0.022	0.270	0.273	0.232
1966	0.010	0.233	0.410	0.273
1967	0.005	0.137	0.195	0.096
1968	0.014	0.235	0.244	0.237
1969	0.005	0.207	0.247	0.151
1970	0.004	0.236	0.253	0.114
1971	0.004	0.219	0.202	0.068
1972	0.004	0.110	0.233	0.054
1973	.	0.163	0.203	0.031
1974	.	0.113	0.159	0.039
1975	.	0.107	0.154	0.044
1976	0.010	0.124	0.204	0.047
1977	0.005	0.115	0.195	0.027
1978	.	0.129	0.172	0.039
1979	.	0.148	0.230	0.047
1980	.	0.087	0.176	.
1981	.	0.179	0.183	0.005
1982	0.008	0.166	0.131	0.010

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.219
.	.	.	5.976
.	.	.	5.333
.	.	.	5.825
.	.	.	4.950
.	.	.	6.038
.	.	.	4.431
.	.	.	6.304
.	.	.	4.502
.	.	.	7.254
.	.	.	6.067
.	.	.	4.478
.	.	.	7.953
.	.	.	4.907
.	.	.	4.550
0.120	.	.	3.236
0.070	.	.	2.981
0.146	.	.	5.420
0.248	.	.	7.441
0.106	0.060	.	4.608
0.146	0.077	.	5.100
0.115	0.070	.	5.558
0.098	0.019	.	2.756
0.103	0.048	.	4.406
0.075	.	.	3.417
0.029	0.010	.	3.228
0.010	0.010	.	2.571
0.029	0.011	.	2.206
0.021	0.021	.	2.186
0.012	.	.	1.616
.	0.010	.	1.571
0.023	.	.	2.034
.	.	.	1.715
0.010	.	.	1.754
.	.	.	2.126
.	.	.	1.313
.	.	.	1.835
.	.	.	1.574

Basic Table 11.A. Total Jiangsu Province (10): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.075	.	.	.
1941	0.073	.	.	.
1942	0.069	.	.	.
1943	0.091	.	.	.
1944	0.071	.	.	.
1945	0.062	0.266	.	.
1946	0.056	0.268	.	.
1947	0.081	0.267	.	.
1948	0.058	0.249	.	.
1949	0.072	0.258	.	.
1950	0.073	0.231	0.255	.
1951	0.061	0.243	0.252	.
1952	0.071	0.292	0.270	.
1953	0.074	0.254	0.282	.
1954	0.064	0.297	0.288	.
1955	0.074	0.309	0.283	0.218
1956	0.057	0.260	0.260	0.225
1957	0.062	0.290	0.313	0.251
1958	0.059	0.217	0.246	0.231
1959	0.035	0.176	0.209	0.186
1960	0.027	0.168	0.204	0.159
1961	0.023	0.148	0.176	0.151
1962	0.025	0.256	0.303	0.249
1963	0.039	0.305	0.343	0.306
1964	0.043	0.244	0.292	0.231
1965	0.026	0.279	0.305	0.221
1966	0.024	0.283	0.302	0.247
1967	0.022	0.226	0.256	0.180
1968	0.022	0.262	0.321	0.217
1969	0.023	0.233	0.274	0.188
1970	0.021	0.254	0.267	0.182
1971	0.022	0.221	0.263	0.145
1972	0.012	0.194	0.213	0.106
1973	0.005	0.161	0.206	0.092
1974	0.008	0.148	0.203	0.079
1975	0.005	0.138	0.177	0.072
1976	0.005	0.144	0.185	0.058
1977	0.005	0.125	0.174	0.062
1978	0.003	0.121	0.180	0.058
1979	0.002	0.127	0.181	0.055
1980	0.001	0.105	0.154	0.024
1981	0.004	0.161	0.193	0.026
1982	0.010	0.158	0.166	0.031

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.252
.	.	.	5.249
.	.	.	5.916
.	.	.	5.196
.	.	.	5.613
.	.	.	5.076
.	.	.	5.309
.	.	.	6.049
.	.	.	5.498
.	.	.	6.088
.	.	.	5.913
.	.	.	5.440
.	.	.	6.088
.	.	.	5.024
.	.	.	3.981
0.122	.	.	3.675
0.094	.	.	3.271
0.173	.	.	5.535
0.232	.	.	6.666
0.160	0.076	0.007	5.264
0.160	0.077	0.010	5.388
0.180	0.063	0.007	5.534
0.113	0.058	0.006	4.307
0.133	0.063	0.009	5.132
0.124	0.059	0.007	4.538
0.132	0.047	0.003	4.535
0.097	0.054	0.005	4.040
0.066	0.039	0.002	3.160
0.051	0.017	0.002	2.671
0.035	0.022	0.002	2.491
0.039	0.009	0.002	2.216
0.026	0.009	0.004	2.157
0.020	0.010	0.001	1.988
0.019	0.006	.	1.931
0.017	0.004	.	1.932
0.006	0.003	0.001	1.462
0.006	0.003	0.001	1.967
0.006	0.001	0.003	1.879

Basic Table 11.B. Urban Jiangsu Province (10): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.081	.	.	.
1941	0.084	.	.	.
1942	0.083	.	.	.
1943	0.074	.	.	.
1944	0.058	.	.	.
1945	0.068	0.205	.	.
1946	0.042	0.240	.	.
1947	0.084	0.260	.	.
1948	0.053	0.216	.	.
1949	0.081	0.259	.	.
1950	0.096	0.222	0.253	.
1951	0.044	0.240	0.246	.
1952	0.055	0.292	0.203	.
1953	0.042	0.193	0.231	.
1954	0.070	0.294	0.300	.
1955	0.062	0.210	0.291	0.151
1956	0.033	0.230	0.244	0.229
1957	0.035	0.258	0.331	0.192
1958	0.072	0.176	0.259	0.206
1959	0.043	0.201	0.308	0.174
1960	0.024	0.174	0.259	0.184
1961	0.014	0.172	0.193	0.215
1962	0.021	0.238	0.258	0.177
1963	0.019	0.263	0.359	0.276
1964	0.036	0.163	0.254	0.145
1965	0.026	0.182	0.200	0.136
1966	0.021	0.161	0.195	0.125
1967	0.005	0.150	0.200	0.089
1968	0.012	0.184	0.223	0.106
1969	0.009	0.152	0.169	0.117
1970	0.013	0.191	0.213	0.128
1971	0.022	0.135	0.229	0.078
1972	0.004	0.110	0.179	0.068
1973	0.004	0.100	0.204	0.059
1974	.	0.068	0.161	0.066
1975	0.002	0.110	0.159	0.074
1976	.	0.089	0.135	0.057
1977	0.004	0.083	0.140	0.047
1978	0.004	0.037	0.150	0.048
1979	.	0.049	0.134	0.084
1980	.	0.034	0.121	0.023
1981	.	0.101	0.233	0.029
1982	.	0.116	0.136	0.015

rates, 1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.581
•	•	•	4.797
•	•	•	5.724
•	•	•	4.950
•	•	•	6.504
•	•	•	5.224
•	•	•	4.895
•	•	•	5.675
•	•	•	4.392
•	•	•	6.522
•	•	•	4.930
•	•	•	4.932
•	•	•	5.618
•	•	•	4.773
•	•	•	4.711
0.097	•	•	4.033
0.117	•	•	3.968
0.109	•	•	4.320
0.182	•	•	5.810
0.103	0.038	0.007	3.726
0.043	0.049	•	3.178
0.046	0.039	•	2.937
0.027	0.010	•	2.403
0.039	0.015	•	2.896
0.027	0.004	•	2.396
0.026	0.009	•	2.897
0.036	0.013	0.006	2.592
0.022	0.004	•	1.934
0.021	•	•	1.938
0.017	•	•	1.563
0.016	•	•	1.813
0.007	•	•	1.442
0.006	•	•	1.398
0.003	0.004	•	1.234
0.007	0.003	•	1.382
•	•	•	0.890
0.004	•	0.004	1.352
•	•	•	1.334

Basic Table 11.C. Rural Jiangsu Province (10): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.073	•	•	•
1941	0.071	•	•	•
1942	0.066	•	•	•
1943	0.095	•	•	•
1944	0.074	•	•	•
1945	0.061	0.277	•	•
1946	0.059	0.273	•	•
1947	0.080	0.268	•	•
1948	0.059	0.256	•	•
1949	0.070	0.257	•	•
1950	0.068	0.232	0.256	•
1951	0.065	0.244	0.253	•
1952	0.074	0.291	0.283	•
1953	0.081	0.266	0.292	•
1954	0.063	0.298	0.286	•
1955	0.077	0.329	0.281	0.230
1956	0.062	0.266	0.263	0.224
1957	0.068	0.298	0.309	0.263
1958	0.056	0.227	0.244	0.236
1959	0.033	0.170	0.191	0.188
1960	0.028	0.167	0.193	0.154
1961	0.024	0.142	0.172	0.138
1962	0.025	0.260	0.313	0.264
1963	0.043	0.315	0.340	0.312
1964	0.044	0.262	0.301	0.246
1965	0.026	0.298	0.331	0.238
1966	0.025	0.306	0.327	0.273
1967	0.025	0.239	0.269	0.201
1968	0.024	0.276	0.343	0.243
1969	0.026	0.248	0.296	0.205
1970	0.022	0.266	0.278	0.195
1971	0.023	0.238	0.269	0.162
1972	0.013	0.211	0.219	0.115
1973	0.006	0.173	0.207	0.099
1974	0.009	0.164	0.211	0.081
1975	0.006	0.143	0.181	0.072
1976	0.006	0.155	0.195	0.058
1977	0.005	0.133	0.180	0.064
1978	0.002	0.138	0.185	0.060
1979	0.002	0.143	0.191	0.050
1980	0.001	0.121	0.160	0.024
1981	0.004	0.175	0.186	0.025
1982	0.011	0.168	0.172	0.034

rates, 1940–82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.387
.	.	.	5.339
.	.	.	5.953
.	.	.	5.245
.	.	.	5.438
.	.	.	5.046
.	.	.	5.393
.	.	.	6.126
.	.	.	5.726
.	.	.	5.997
.	.	.	6.120
.	.	.	5.547
.	.	.	6.187
.	.	.	5.077
.	.	.	3.829
0.126	.	.	3.601
0.090	.	.	3.128
0.185	.	.	5.781
0.242	.	.	6.840
0.172	0.084	0.006	5.579
0.184	0.083	0.012	5.855
0.208	0.068	0.009	6.072
0.131	0.067	0.007	4.695
0.151	0.072	0.011	5.597
0.142	0.070	0.008	4.978
0.153	0.055	0.004	4.870
0.110	0.062	0.005	4.342
0.076	0.045	0.003	3.411
0.058	0.021	0.003	2.823
0.040	0.027	0.003	2.675
0.045	0.011	0.003	2.300
0.030	0.011	0.005	2.302
0.024	0.012	0.002	2.106
0.022	0.007	.	2.071
0.019	0.004	.	2.047
0.007	0.003	0.001	1.584
0.007	0.003	.	2.000
0.008	0.001	0.003	1.991

Basic Table 12.A. Total Zhejiang Province (11): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.091	•	•	•
1941	0.115	•	•	•
1942	0.105	•	•	•
1943	0.082	•	•	•
1944	0.088	•	•	•
1945	0.086	0.284	•	•
1946	0.095	0.256	•	•
1947	0.093	0.276	•	•
1948	0.107	0.284	•	•
1949	0.096	0.314	•	•
1950	0.099	0.293	0.275	•
1951	0.122	0.244	0.267	•
1952	0.106	0.312	0.293	•
1953	0.105	0.289	0.295	•
1954	0.146	0.301	0.311	•
1955	0.118	0.300	0.290	0.245
1956	0.106	0.278	0.308	0.227
1957	0.114	0.359	0.340	0.287
1958	0.105	0.239	0.293	0.237
1959	0.069	0.226	0.248	0.164
1960	0.061	0.230	0.238	0.192
1961	0.032	0.190	0.182	0.154
1962	0.090	0.343	0.332	0.329
1963	0.096	0.388	0.390	0.331
1964	0.088	0.357	0.303	0.261
1965	0.100	0.327	0.299	0.233
1966	0.103	0.372	0.302	0.219
1967	0.076	0.300	0.259	0.186
1968	0.084	0.333	0.299	0.191
1969	0.080	0.313	0.289	0.172
1970	0.070	0.295	0.227	0.154
1971	0.070	0.308	0.223	0.132
1972	0.048	0.259	0.198	0.107
1973	0.045	0.243	0.175	0.091
1974	0.039	0.226	0.171	0.082
1975	0.027	0.198	0.156	0.090
1976	0.023	0.222	0.152	0.067
1977	0.021	0.192	0.147	0.065
1978	0.010	0.183	0.171	0.049
1979	0.017	0.203	0.174	0.047
1980	0.012	0.165	0.140	0.033
1981	0.017	0.232	0.153	0.030
1982	0.017	0.220	0.159	0.031

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.151
.	.	.	5.338
.	.	.	5.690
.	.	.	5.547
.	.	.	5.946
.	.	.	5.567
.	.	.	5.470
.	.	.	6.096
.	.	.	5.879
.	.	.	6.002
.	.	.	5.971
.	.	.	5.963
.	.	.	6.993
.	.	.	5.442
.	.	.	4.539
0.149	.	.	4.709
0.102	.	.	3.491
0.190	.	.	6.854
0.240	.	.	7.617
0.221	0.070	0.007	6.534
0.199	0.082	0.006	6.227
0.182	0.069	0.002	6.239
0.134	0.066	0.004	5.122
0.153	0.072	.	5.667
0.130	0.052	0.004	5.200
0.097	0.035	0.005	4.418
0.090	0.049	0.003	4.380
0.061	0.030	0.003	3.532
0.058	0.030	0.007	3.244
0.040	0.018	0.001	2.888
0.037	0.020	0.001	2.678
0.037	0.018	0.001	2.602
0.021	0.019	0.001	2.333
0.013	0.009	0.003	2.195
0.014	0.008	.	2.315
0.013	0.003	0.002	1.839
0.010	0.004	0.001	2.229
0.015	0.003	0.005	2.246

Basic Table 12.B. Urban Zhejiang Province (11): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.013	•	•	•
1941	0.060	•	•	•
1942	0.065	•	•	•
1943	0.074	•	•	•
1944	0.070	•	•	•
1945	0.079	0.240	•	•
1946	0.069	0.229	•	•
1947	0.142	0.338	•	•
1948	0.094	0.223	•	•
1949	0.067	0.342	•	•
1950	0.069	0.356	0.359	•
1951	0.103	0.188	0.265	•
1952	0.054	0.315	0.327	•
1953	0.044	0.222	0.244	•
1954	0.090	0.275	0.292	•
1955	0.026	0.240	0.277	0.173
1956	0.069	0.191	0.257	0.241
1957	0.051	0.282	0.457	0.262
1958	0.043	0.197	0.265	0.202
1959	0.042	0.222	0.238	0.181
1960	0.025	0.244	0.281	0.208
1961	0.015	0.171	0.205	0.129
1962	0.037	0.194	0.249	0.244
1963	0.064	0.312	0.343	0.273
1964	0.027	0.236	0.205	0.156
1965	0.038	0.215	0.166	0.117
1966	0.020	0.161	0.103	0.109
1967	0.006	0.180	0.144	0.087
1968	0.012	0.184	0.182	0.073
1969	0.018	0.115	0.203	0.082
1970	0.033	0.166	0.124	0.105
1971	0.025	0.146	0.177	0.060
1972	0.009	0.115	0.180	0.076
1973	0.004	0.087	0.170	0.078
1974	•	0.112	0.183	0.051
1975	•	0.044	0.128	0.075
1976	•	0.071	0.160	0.038
1977	0.005	0.042	0.140	0.052
1978	•	0.040	0.137	0.043
1979	•	0.027	0.176	0.075
1980	0.005	0.018	0.094	0.026
1981	•	0.037	0.172	0.027
1982	•	0.038	0.120	0.013

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.985
.	.	.	4.114
.	.	.	6.845
.	.	.	5.286
.	.	.	5.603
.	.	.	6.408
.	.	.	4.426
.	.	.	5.733
.	.	.	4.624
.	.	.	5.674
.	.	.	4.535
.	.	.	5.004
.	.	.	6.542
.	.	.	4.794
.	.	.	4.260
0.253	.	.	5.395
0.121	.	.	3.385
0.131	.	.	4.618
0.159	.	.	6.044
0.111	0.029	.	3.822
0.040	0.027	.	3.012
0.030	0.012	.	2.177
0.071	0.011	.	2.495
0.034	.	.	2.428
0.030	0.040	.	2.438
0.041	.	.	2.348
0.007	.	.	2.077
0.013	.	.	1.965
0.022	.	.	1.807
0.016	0.007	.	1.846
0.017	.	.	1.321
0.009	0.007	.	1.422
0.008	.	.	1.237
.	.	.	1.099
0.008	.	.	1.429
.	.	.	0.713
0.008	.	.	1.219
.	.	.	0.855

Basic Table 12.C. Rural Zhejiang Province (11): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.102	•	•	•
1941	0.123	•	•	•
1942	0.112	•	•	•
1943	0.084	•	•	•
1944	0.090	•	•	•
1945	0.087	0.290	•	•
1946	0.099	0.260	•	•
1947	0.086	0.266	•	•
1948	0.109	0.293	•	•
1949	0.101	0.309	•	•
1950	0.105	0.283	0.263	•
1951	0.126	0.252	0.267	•
1952	0.117	0.312	0.288	•
1953	0.118	0.300	0.303	•
1954	0.156	0.305	0.314	•
1955	0.134	0.312	0.292	0.255
1956	0.113	0.296	0.316	0.225
1957	0.125	0.376	0.324	0.291
1958	0.116	0.247	0.297	0.243
1959	0.074	0.227	0.250	0.162
1960	0.067	0.228	0.230	0.190
1961	0.035	0.193	0.178	0.158
1962	0.099	0.370	0.350	0.341
1963	0.101	0.402	0.400	0.340
1964	0.097	0.380	0.321	0.280
1965	0.109	0.345	0.323	0.256
1966	0.114	0.408	0.339	0.241
1967	0.085	0.320	0.280	0.207
1968	0.093	0.356	0.321	0.216
1969	0.088	0.342	0.305	0.189
1970	0.075	0.314	0.245	0.162
1971	0.076	0.329	0.231	0.146
1972	0.054	0.278	0.201	0.113
1973	0.050	0.263	0.175	0.094
1974	0.044	0.241	0.169	0.088
1975	0.031	0.218	0.160	0.092
1976	0.027	0.242	0.151	0.072
1977	0.024	0.213	0.148	0.067
1978	0.012	0.203	0.175	0.051
1979	0.019	0.229	0.174	0.043
1980	0.012	0.186	0.146	0.034
1981	0.018	0.263	0.150	0.030
1982	0.018	0.249	0.165	0.033

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.339
.	.	.	5.534
.	.	.	5.507
.	.	.	5.590
.	.	.	6.004
.	.	.	5.422
.	.	.	5.651
.	.	.	6.158
.	.	.	6.097
.	.	.	6.058
.	.	.	6.221
.	.	.	6.131
.	.	.	7.072
.	.	.	5.556
.	.	.	4.588
0.133	.	.	4.590
0.099	.	.	3.509
0.200	.	.	7.240
0.253	.	.	7.884
0.238	0.076	0.008	6.996
0.223	0.090	0.007	6.769
0.204	0.077	0.002	6.928
0.142	0.076	0.004	5.568
0.172	0.084	.	6.205
0.148	0.054	0.004	5.649
0.108	0.041	0.006	4.753
0.107	0.056	0.004	4.748
0.071	0.034	0.004	3.772
0.065	0.035	0.008	3.455
0.044	0.020	0.002	3.043
0.041	0.031	0.002	2.878
0.043	0.020	0.001	2.780
0.023	0.023	0.001	2.499
0.016	0.011	0.004	2.355
0.015	0.009	.	2.450
0.015	0.003	0.003	2.005
0.011	0.005	0.001	2.388
0.017	0.003	0.006	2.455

Basic Table 13.A. Total Anhui Province (12): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.083	•	•	•
1941	0.084	•	•	•
1942	0.066	•	•	•
1943	0.076	•	•	•
1944	0.062	•	•	•
1945	0.069	0.249	•	•
1946	0.057	0.242	•	•
1947	0.080	0.291	•	•
1948	0.066	0.250	•	•
1949	0.061	0.256	•	•
1950	0.061	0.226	0.278	•
1951	0.053	0.263	0.242	•
1952	0.104	0.310	0.288	•
1953	0.102	0.294	0.270	•
1954	0.108	0.275	0.286	•
1955	0.081	0.256	0.242	0.231
1956	0.068	0.286	0.232	0.233
1957	0.078	0.267	0.275	0.231
1958	0.054	0.228	0.197	0.179
1959	0.029	0.109	0.141	0.120
1960	0.018	0.074	0.107	0.097
1961	0.017	0.098	0.144	0.095
1962	0.042	0.296	0.390	0.317
1963	0.066	0.393	0.371	0.315
1964	0.053	0.287	0.289	0.253
1965	0.048	0.328	0.311	0.286
1966	0.052	0.358	0.338	0.298
1967	0.048	0.278	0.302	0.245
1968	0.051	0.343	0.364	0.327
1969	0.038	0.312	0.339	0.270
1970	0.039	0.317	0.323	0.294
1971	0.038	0.289	0.337	0.264
1972	0.035	0.293	0.293	0.227
1973	0.026	0.243	0.283	0.203
1974	0.025	0.233	0.241	0.165
1975	0.024	0.188	0.261	0.130
1976	0.016	0.195	0.230	0.129
1977	0.010	0.184	0.225	0.098
1978	0.012	0.196	0.269	0.108
1979	0.005	0.225	0.272	0.126
1980	0.010	0.195	0.218	0.094
1981	0.019	0.229	0.243	0.069
1982	0.031	0.137	0.208	0.067

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.507
.	.	.	4.216
.	.	.	5.866
.	.	.	4.419
.	.	.	5.106
.	.	.	4.946
.	.	.	4.795
.	.	.	5.966
.	.	.	5.469
.	.	.	5.810
.	.	.	5.094
.	.	.	5.268
.	.	.	5.408
.	.	.	4.380
.	.	.	2.583
0.059	.	.	1.907
0.072	.	.	2.271
0.217	.	.	6.847
0.256	.	.	7.572
0.163	0.091	0.011	5.740
0.222	0.091	0.011	6.474
0.209	0.126	0.026	7.037
0.211	0.077	0.004	5.821
0.237	0.098	0.015	7.178
0.220	0.098	0.016	6.463
0.205	0.101	0.008	6.435
0.208	0.088	0.009	6.165
0.174	0.070	0.015	5.530
0.143	0.067	0.009	4.873
0.089	0.048	0.001	4.012
0.080	0.041	0.009	3.666
0.077	0.032	0.003	3.432
0.062	0.031	.	3.045
0.058	0.028	0.008	3.397
0.047	0.023	0.005	3.519
0.033	0.012	0.004	2.826
0.026	0.009	.	2.980
0.016	0.015	0.002	2.379

Basic Table 13.B. Urban Anhui Province (12): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.047	.	.	.
1941	0.110	.	.	.
1942	0.038	.	.	.
1943	0.085	.	.	.
1944	0.025	.	.	.
1945	0.023	0.154	.	.
1946	0.043	0.135	.	.
1947	0.020	0.238	.	.
1948	0.053	0.109	.	.
1949	0.008	0.267	.	.
1950	0.030	0.128	0.236	.
1951	0.050	0.258	0.258	.
1952	0.094	0.235	0.225	.
1953	0.058	0.272	0.170	.
1954	0.091	0.295	0.343	.
1955	0.063	0.290	0.233	0.225
1956	0.067	0.262	0.280	0.172
1957	0.080	0.307	0.304	0.250
1958	0.065	0.283	0.193	0.230
1959	0.043	0.202	0.295	0.203
1960	0.054	0.139	0.201	0.140
1961	0.027	0.113	0.113	0.086
1962	0.063	0.281	0.321	0.343
1963	0.109	0.394	0.356	0.324
1964	0.041	0.334	0.258	0.191
1965	0.046	0.248	0.292	0.231
1966	0.016	0.198	0.253	0.099
1967	0.014	0.283	0.214	0.167
1968	0.006	0.230	0.239	0.189
1969	0.024	0.143	0.306	0.167
1970	0.004	0.194	0.209	0.188
1971	0.011	0.130	0.225	0.113
1972	0.007	0.129	0.210	0.121
1973	0.007	0.067	0.153	0.097
1974	0.003	0.097	0.174	0.092
1975	0.019	0.073	0.176	0.047
1976	0.012	0.088	0.163	0.063
1977	.	0.071	0.183	0.042
1978	0.008	0.079	0.223	0.077
1979	0.004	0.057	0.276	0.071
1980	.	0.070	0.191	0.074
1981	0.010	0.085	0.169	0.041
1982	.	0.071	0.156	0.013

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	2.643
.	.	.	2.764
.	.	.	5.308
.	.	.	3.915
.	.	.	4.688
.	.	.	4.260
.	.	.	5.237
.	.	.	5.962
.	.	.	4.323
.	.	.	6.426
.	.	.	5.422
.	.	.	5.550
.	.	.	6.289
.	.	.	5.573
.	.	.	5.054
0.106	.	.	3.540
0.037	.	.	2.142
0.150	.	.	6.730
0.145	.	.	7.314
0.114	0.094	0.020	5.261
0.151	0.035	0.017	5.105
0.086	.	0.016	3.342
0.088	0.013	.	3.895
0.132	0.048	0.013	4.278
0.120	0.025	.	3.924
0.060	0.023	.	3.393
0.085	.	0.012	2.884
0.040	0.010	.	2.580
0.051	.	.	1.872
0.014	.	.	1.901
0.021	0.015	0.023	1.866
0.027	0.007	.	1.801
0.007	0.013	.	1.581
0.006	0.007	.	2.006
.	0.007	.	2.074
.	.	.	1.677
0.009	.	.	1.569
.	.	.	1.198

Basic Table 13.C. Rural Anhui Province (12): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.087	•	•	•
1941	0.081	•	•	•
1942	0.069	•	•	•
1943	0.075	•	•	•
1944	0.065	•	•	•
1945	0.074	0.260	•	•
1946	0.059	0.253	•	•
1947	0.088	0.297	•	•
1948	0.068	0.264	•	•
1949	0.070	0.255	•	•
1950	0.066	0.236	0.283	•
1951	0.053	0.264	0.240	•
1952	0.106	0.320	0.294	•
1953	0.108	0.297	0.281	•
1954	0.111	0.272	0.280	•
1955	0.084	0.251	0.243	0.231
1956	0.068	0.290	0.226	0.240
1957	0.077	0.260	0.271	0.229
1958	0.053	0.220	0.198	0.174
1959	0.027	0.094	0.118	0.111
1960	0.014	0.063	0.093	0.093
1961	0.016	0.096	0.149	0.096
1962	0.041	0.299	0.400	0.314
1963	0.062	0.393	0.374	0.314
1964	0.054	0.281	0.294	0.263
1965	0.048	0.337	0.314	0.294
1966	0.055	0.374	0.351	0.330
1967	0.051	0.277	0.316	0.257
1968	0.056	0.351	0.384	0.347
1969	0.040	0.325	0.343	0.286
1970	0.044	0.326	0.336	0.311
1971	0.042	0.303	0.348	0.288
1972	0.039	0.309	0.299	0.244
1973	0.030	0.262	0.293	0.220
1974	0.029	0.250	0.246	0.175
1975	0.026	0.204	0.268	0.140
1976	0.017	0.211	0.235	0.135
1977	0.012	0.202	0.229	0.103
1978	0.013	0.217	0.274	0.110
1979	0.005	0.260	0.272	0.131
1980	0.011	0.224	0.222	0.095
1981	0.020	0.267	0.254	0.071
1982	0.034	0.151	0.217	0.073

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.709
.	.	.	4.376
.	.	.	5.929
.	.	.	4.479
.	.	.	5.156
.	.	.	5.029
.	.	.	4.740
.	.	.	5.966
.	.	.	5.613
.	.	.	5.730
.	.	.	5.051
.	.	.	5.231
.	.	.	5.292
.	.	.	4.222
.	.	.	2.261
0.054	.	.	1.698
0.076	.	.	2.287
0.224	.	.	6.862
0.268	.	.	7.603
0.168	0.091	0.010	5.803
0.230	0.097	0.010	6.645
0.224	0.139	0.027	7.504
0.228	0.033	0.004	6.084
0.253	0.103	0.015	7.549
0.235	0.105	0.018	6.761
0.228	0.109	0.009	6.820
0.227	0.098	0.009	6.580
0.195	0.078	0.017	5.904
0.157	0.077	0.010	5.240
0.101	0.055	0.001	4.288
0.090	0.045	0.008	3.896
0.085	0.035	0.009	3.643
0.071	0.033	.	3.247
0.066	0.032	0.009	3.604
0.053	0.026	0.006	3.762
0.036	0.014	0.005	3.035
0.028	0.011	.	3.257
0.018	0.017	0.002	2.556

Basic Table 14.A. Total Fujian Province (13): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.075	.	.	.
1941	0.080	.	.	.
1942	0.072	.	.	.
1943	0.064	.	.	.
1944	0.085	.	.	.
1945	0.098	0.251	.	.
1946	0.080	0.253	.	.
1947	0.061	0.289	.	.
1948	0.093	0.238	.	.
1949	0.066	0.303	.	.
1950	0.075	0.286	0.270	.
1951	0.092	0.253	0.261	.
1952	0.092	0.335	0.327	.
1953	0.115	0.316	0.295	.
1954	0.085	0.342	0.264	.
1955	0.097	0.296	0.308	0.299
1956	0.078	0.257	0.314	0.208
1957	0.096	0.340	0.329	0.289
1958	0.087	0.315	0.248	0.253
1959	0.070	0.242	0.298	0.231
1960	0.033	0.233	0.255	0.208
1961	0.037	0.143	0.157	0.128
1962	0.082	0.346	0.342	0.261
1963	0.091	0.360	0.371	0.356
1964	0.086	0.374	0.303	0.272
1965	0.068	0.268	0.334	0.294
1966	0.071	0.338	0.345	0.290
1967	0.060	0.276	0.290	0.242
1968	0.068	0.355	0.349	0.297
1969	0.075	0.298	0.346	0.261
1970	0.076	0.266	0.341	0.268
1971	0.072	0.298	0.332	0.255
1972	0.056	0.265	0.317	0.237
1973	0.050	0.295	0.300	0.201
1974	0.048	0.289	0.224	0.200
1975	0.045	0.284	0.258	0.126
1976	0.046	0.278	0.273	0.174
1977	0.030	0.257	0.253	0.128
1978	0.026	0.270	0.229	0.125
1979	0.023	0.216	0.195	0.069
1980	0.015	0.170	0.168	0.034
1981	0.023	0.232	0.190	0.054
1982	0.023	0.237	0.178	0.044

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.207
.	.	.	4.996
.	.	.	5.041
.	.	.	4.879
.	.	.	5.756
.	.	.	5.268
.	.	.	5.039
.	.	.	6.518
.	.	.	5.944
.	.	.	5.984
.	.	.	6.226
.	.	.	5.635
.	.	.	6.728
.	.	.	5.888
.	.	.	5.524
0.182	.	.	5.041
0.070	.	.	2.896
0.194	.	.	6.581
0.298	.	.	8.054
0.166	0.109	0.004	6.571
0.201	0.112	0.014	6.455
0.229	0.113	0.006	6.964
0.159	0.065	0.009	5.510
0.186	0.115	.	6.854
0.193	0.068	0.014	6.264
0.169	0.087	0.011	6.092
0.194	0.089	0.008	6.245
0.165	0.039	0.007	5.439
0.132	0.077	0.007	5.304
0.099	0.042	0.009	4.549
0.087	0.039	0.004	4.216
0.090	0.027	0.006	4.472
0.107	0.030	0.002	4.028
0.022	0.027	0.002	3.503
0.039	0.021	0.004	2.838
0.017	0.004	0.002	2.048
0.043	0.016	.	2.788
0.028	0.018	.	2.636

Basic Table 14.B. Urban Fujian Province (13): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.065	.	.	.
1941	0.041	.	.	.
1942	.	.	.	.
1943	0.087	.	.	.
1944	0.017	.	.	.
1945	0.140	0.194	.	.
1946	0.070	0.224	.	.
1947	0.058	0.192	.	.
1948	0.099	0.226	.	.
1949	0.119	0.201	.	.
1950	0.018	0.350	0.301	.
1951	0.157	0.262	0.245	.
1952	0.108	0.251	0.173	.
1953	0.094	0.355	0.313	.
1954	0.164	0.357	0.234	.
1955	0.112	0.277	0.298	0.237
1956	0.079	0.255	0.314	0.265
1957	0.039	0.355	0.405	0.230
1958	0.060	0.376	0.276	0.174
1959	0.039	0.345	0.317	0.234
1960	0.061	0.351	0.370	0.175
1961	0.039	0.126	0.216	0.210
1962	0.125	0.393	0.308	0.212
1963	0.046	0.282	0.376	0.138
1964	0.028	0.197	0.329	0.158
1965	0.050	0.284	0.240	0.166
1966	0.012	0.137	0.110	0.118
1967	0.022	0.142	0.137	0.093
1968	0.011	0.168	0.261	0.141
1969	0.021	0.236	0.217	0.082
1970	0.037	0.088	0.142	0.080
1971	0.016	0.185	0.216	0.047
1972	0.043	0.132	0.036	0.079
1973	0.026	0.185	0.198	0.080
1974	0.019	0.103	0.083	0.039
1975	0.026	0.158	0.139	0.041
1976	0.014	0.073	0.231	0.059
1977	.	0.072	0.099	0.036
1978	.	0.053	0.131	0.015
1979	0.007	0.019	0.145	0.042
1980	.	0.013	0.111	0.050
1981	.	0.048	0.131	0.023
1982	.	0.084	0.125	0.044

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.682
.	.	.	5.281
.	.	.	3.607
.	.	.	5.188
.	.	.	4.980
.	.	.	6.126
.	.	.	5.797
.	.	.	5.528
.	.	.	6.692
.	.	.	6.502
.	.	.	6.162
.	.	.	6.648
.	.	.	6.880
.	.	.	6.013
.	.	.	6.226
0.108	.	.	6.070
0.020	.	.	3.409
0.115	.	.	6.275
0.157	.	.	5.792
0.067	0.066	.	4.224
0.053	0.022	.	4.073
0.017	0.020	.	2.074
.	0.019	.	2.068
0.020	0.070	.	3.351
0.040	.	.	2.977
0.037	.	.	1.921
0.039	0.017	.	2.605
.	0.019	.	1.545
.	.	.	2.451
.	.	.	1.226
0.016	.	.	1.891
0.032	.	.	2.042
.	.	.	1.034
.	.	.	0.995
.	.	.	1.062
0.020	.	.	0.973
.	.	.	1.006
.	.	.	1.269

Basic Table 14.C. Rural Fujian Province (13): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.076	.	.	.
1941	0.086	.	.	.
1942	0.082	.	.	.
1943	0.061	.	.	.
1944	0.095	.	.	.
1945	0.092	0.259	.	.
1946	0.081	0.257	.	.
1947	0.061	0.303	.	.
1948	0.092	0.239	.	.
1949	0.059	0.318	.	.
1950	0.082	0.277	0.265	.
1951	0.084	0.252	0.263	.
1952	0.090	0.346	0.348	.
1953	0.118	0.311	0.293	.
1954	0.074	0.340	0.268	.
1955	0.095	0.298	0.310	0.308
1956	0.077	0.257	0.313	0.200
1957	0.103	0.338	0.319	0.297
1958	0.090	0.306	0.244	0.265
1959	0.073	0.228	0.296	0.231
1960	0.030	0.217	0.240	0.212
1961	0.036	0.146	0.150	0.116
1962	0.077	0.341	0.347	0.267
1963	0.097	0.369	0.370	0.384
1964	0.094	0.396	0.300	0.286
1965	0.070	0.267	0.347	0.311
1966	0.078	0.360	0.380	0.311
1967	0.065	0.291	0.309	0.264
1968	0.075	0.379	0.359	0.319
1969	0.081	0.305	0.362	0.285
1970	0.080	0.290	0.363	0.294
1971	0.079	0.314	0.345	0.286
1972	0.058	0.282	0.349	0.257
1973	0.053	0.307	0.312	0.215
1974	0.053	0.309	0.242	0.220
1975	0.048	0.299	0.273	0.136
1976	0.051	0.304	0.278	0.187
1977	0.034	0.283	0.272	0.139
1978	0.029	0.303	0.240	0.138
1979	0.026	0.247	0.200	0.072
1980	0.017	0.196	0.174	0.032
1981	0.026	0.261	0.197	0.058
1982	0.025	0.261	0.186	0.043

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.286
.	.	.	4.953
.	.	.	5.247
.	.	.	4.835
.	.	.	5.868
.	.	.	5.144
.	.	.	4.933
.	.	.	6.661
.	.	.	5.836
.	.	.	5.911
.	.	.	6.235
.	.	.	5.491
.	.	.	6.706
.	.	.	5.870
.	.	.	5.427
0.192	.	.	4.900
0.077	.	.	2.827
0.205	.	.	6.623
0.318	.	.	8.363
0.180	0.115	0.005	6.880
0.222	0.125	0.016	6.788
0.259	0.126	0.007	7.609
0.179	0.072	0.011	5.953
0.207	0.122	.	7.305
0.212	0.078	0.016	6.687
0.187	0.100	0.012	6.632
0.213	0.099	0.009	6.723
0.189	0.042	0.008	5.926
0.151	0.087	0.008	5.668
0.112	0.047	0.010	4.962
0.097	0.044	0.005	4.511
0.099	0.030	0.007	4.783
0.120	0.034	0.002	4.419
0.024	0.031	0.002	3.844
0.044	0.024	0.005	3.091
0.016	0.004	0.002	2.210
0.047	0.019	.	3.040
0.031	0.020	.	2.830

Basic Table 15.A. Total Jiangxi Province (14): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.095	.	.	.
1941	0.088	.	.	.
1942	0.084	.	.	.
1943	0.091	.	.	.
1944	0.095	.	.	.
1945	0.087	0.231	.	.
1946	0.097	0.285	.	.
1947	0.104	0.277	.	.
1948	0.091	0.284	.	.
1949	0.125	0.309	.	.
1950	0.122	0.329	0.283	.
1951	0.142	0.277	0.282	.
1952	0.145	0.270	0.275	.
1953	0.124	0.308	0.282	.
1954	0.122	0.288	0.277	.
1955	0.140	0.265	0.274	0.200
1956	0.114	0.286	0.275	0.242
1957	0.112	0.319	0.284	0.271
1958	0.098	0.326	0.282	0.279
1959	0.062	0.241	0.236	0.191
1960	0.058	0.205	0.251	0.182
1961	0.057	0.233	0.195	0.160
1962	0.087	0.295	0.321	0.245
1963	0.106	0.354	0.344	0.306
1964	0.089	0.337	0.332	0.259
1965	0.096	0.336	0.277	0.261
1966	0.099	0.330	0.369	0.356
1967	0.079	0.309	0.340	0.294
1968	0.107	0.358	0.373	0.303
1969	0.082	0.305	0.350	0.256
1970	0.079	0.327	0.327	0.331
1971	0.091	0.308	0.310	0.246
1972	0.076	0.303	0.334	0.258
1973	0.070	0.316	0.332	0.271
1974	0.064	0.334	0.317	0.271
1975	0.045	0.313	0.324	0.228
1976	0.079	0.291	0.304	0.219
1977	0.054	0.291	0.275	0.220
1978	0.043	0.278	0.273	0.176
1979	0.033	0.278	0.239	0.125
1980	0.032	0.269	0.185	0.070
1981	0.034	0.292	0.184	0.097
1982	0.046	0.229	0.177	0.060

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.269
.	.	.	5.143
.	.	.	5.131
.	.	.	5.230
.	.	.	5.349
.	.	.	5.895
.	.	.	5.520
.	.	.	5.497
.	.	.	5.907
.	.	.	5.595
.	.	.	5.523
.	.	.	5.719
.	.	.	6.077
.	.	.	6.203
.	.	.	4.700
0.133	.	.	4.527
0.139	.	.	4.162
0.189	.	.	6.075
0.270	.	.	7.276
0.230	0.095	0.020	6.810
0.223	0.104	0.011	6.536
0.244	0.119	0.012	7.646
0.224	0.095	0.002	6.710
0.248	0.114	0.012	7.578
0.234	0.103	0.011	6.709
0.218	0.104	0.009	6.970
0.200	0.092	0.005	6.261
0.217	0.081	0.009	6.390
0.241	0.102	0.019	6.756
0.201	0.090	.	6.388
0.165	0.084	0.005	5.823
0.198	0.088	0.007	5.925
0.149	0.055	0.003	5.240
0.105	0.065	0.010	4.746
0.088	0.037	0.002	4.010
0.031	0.013	0.008	3.032
0.035	0.022	0.005	3.338
0.050	0.010	0.003	2.872

Basic Table 15.B. Urban Jiangxi Province (14): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.062	.	.	.
1941	0.022	.	.	.
1942	0.082	.	.	.
1943	0.078	.	.	.
1944	0.154	.	.	.
1945	0.126	0.165	.	.
1946	0.116	0.305	.	.
1947	0.114	0.185	.	.
1948	0.054	0.388	.	.
1949	0.136	0.212	.	.
1950	0.112	0.379	0.412	.
1951	0.166	0.193	0.283	.
1952	0.110	0.246	0.226	.
1953	0.102	0.306	0.407	.
1954	0.119	0.341	0.269	.
1955	0.175	0.160	0.253	0.165
1956	0.149	0.361	0.309	0.327
1957	0.100	0.316	0.246	0.309
1958	0.111	0.379	0.432	0.291
1959	0.050	0.356	0.085	0.269
1960	0.058	0.320	0.384	0.253
1961	0.044	0.193	0.125	0.116
1962	0.029	0.258	0.289	0.265
1963	0.034	0.319	0.262	0.234
1964	0.023	0.225	0.311	0.256
1965	0.061	0.256	0.160	0.176
1966	0.024	0.178	0.208	0.264
1967	0.018	0.163	0.258	0.138
1968	0.035	0.252	0.375	0.146
1969	0.022	0.249	0.250	0.148
1970	0.017	0.312	0.280	0.175
1971	0.023	0.175	0.267	0.119
1972	0.017	0.248	0.230	0.172
1973	0.006	0.179	0.244	0.069
1974	0.023	0.145	0.233	0.113
1975	0.018	0.189	0.278	0.163
1976	0.033	0.087	0.247	0.167
1977	.	0.188	0.242	0.115
1978	0.022	0.168	0.162	0.084
1979	0.015	0.086	0.173	0.031
1980	0.007	0.085	0.117	0.054
1981	.	0.093	0.121	0.018
1982	.	0.135	0.123	0.037

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.407
.	.	.	5.761
.	.	.	5.564
.	.	.	6.354
.	.	.	4.926
.	.	.	8.227
.	.	.	5.020
.	.	.	5.884
.	.	.	7.410
.	.	.	5.855
.	.	.	5.550
.	.	.	7.753
.	.	.	6.634
.	.	.	8.061
.	.	.	5.149
0.103	.	.	6.370
0.152	.	.	3.198
0.124	.	.	5.246
0.194	.	.	5.665
0.250	0.071	0.017	5.770
0.235	0.062	.	4.750
0.135	0.044	0.014	4.332
0.151	0.082	.	4.055
0.162	0.039	.	5.040
0.068	0.076	.	4.169
0.112	0.072	.	4.835
0.069	.	.	3.265
0.055	.	.	3.613
0.058	.	0.019	2.879
0.030	0.017	.	2.801
0.073	.	.	3.606
0.030	0.028	.	2.957
.	.	.	2.726
0.014	.	0.018	2.339
.	.	.	1.526
0.012	.	.	1.375
.	.	.	1.163
.	.	.	1.479

Basic Table 15.C. Rural Jiangxi Province (14): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.099	.	.	.
1941	0.095	.	.	.
1942	0.085	.	.	.
1943	0.093	.	.	.
1944	0.089	.	.	.
1945	0.083	0.237	.	.
1946	0.096	0.284	.	.
1947	0.103	0.285	.	.
1948	0.094	0.274	.	.
1949	0.123	0.318	.	.
1950	0.124	0.324	0.270	.
1951	0.139	0.285	0.282	.
1952	0.150	0.272	0.279	.
1953	0.127	0.308	0.270	.
1954	0.122	0.283	0.278	.
1955	0.136	0.277	0.276	0.203
1956	0.110	0.277	0.272	0.234
1957	0.114	0.320	0.288	0.268
1958	0.096	0.320	0.267	0.278
1959	0.064	0.228	0.252	0.183
1960	0.058	0.191	0.236	0.175
1961	0.058	0.238	0.204	0.164
1962	0.097	0.300	0.325	0.243
1963	0.119	0.359	0.354	0.314
1964	0.101	0.354	0.335	0.259
1965	0.102	0.348	0.291	0.270
1966	0.113	0.353	0.389	0.367
1967	0.089	0.334	0.350	0.313
1968	0.119	0.376	0.373	0.321
1969	0.092	0.314	0.365	0.269
1970	0.089	0.330	0.334	0.350
1971	0.101	0.332	0.316	0.262
1972	0.085	0.312	0.351	0.270
1973	0.079	0.338	0.347	0.300
1974	0.070	0.365	0.332	0.295
1975	0.049	0.333	0.332	0.238
1976	0.085	0.322	0.314	0.227
1977	0.061	0.306	0.280	0.238
1978	0.046	0.293	0.291	0.192
1979	0.035	0.307	0.249	0.141
1980	0.035	0.295	0.196	0.072
1981	0.037	0.319	0.193	0.111
1982	0.050	0.241	0.185	0.064

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.134
•	•	•	5.071
•	•	•	5.081
•	•	•	5.099
•	•	•	5.956
•	•	•	5.625
•	•	•	5.579
•	•	•	5.452
•	•	•	5.732
•	•	•	5.565
•	•	•	5.520
•	•	•	5.476
•	•	•	6.010
•	•	•	5.977
•	•	•	4.645
0.136	•	•	4.299
0.138	•	•	4.282
0.195	•	•	6.182
0.278	•	•	7.488
0.228	0.098	0.020	6.971
0.222	0.109	0.012	6.768
0.254	0.126	0.011	8.073
0.231	0.096	0.002	7.075
0.257	0.121	0.014	7.908
0.252	0.104	0.012	7.042
0.229	0.107	0.010	7.245
0.216	0.101	0.006	6.676
0.237	0.089	0.010	6.767
0.262	0.112	0.019	7.291
0.221	0.098	•	6.904
0.177	0.094	0.006	6.144
0.219	0.096	0.007	6.350
0.169	0.062	0.004	5.603
0.118	0.073	0.009	5.106
0.102	0.041	0.002	4.385
0.034	0.014	0.009	3.272
0.040	0.025	0.005	3.654
0.059	0.012	0.003	3.064

Basic Table 16.A. Total Shandong Province (15): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.063	•	•	•
1941	0.073	•	•	•
1942	0.063	•	•	•
1943	0.051	•	•	•
1944	0.049	•	•	•
1945	0.060	0.268	•	•
1946	0.056	0.236	•	•
1947	0.065	0.234	•	•
1948	0.056	0.233	•	•
1949	0.063	0.228	•	•
1950	0.063	0.217	0.243	•
1951	0.075	0.262	0.246	•
1952	0.067	0.267	0.278	•
1953	0.074	0.263	0.280	•
1954	0.064	0.262	0.264	•
1955	0.078	0.238	0.326	0.246
1956	0.046	0.255	0.261	0.229
1957	0.059	0.309	0.340	0.262
1958	0.042	0.221	0.241	0.231
1959	0.023	0.176	0.212	0.162
1960	0.025	0.179	0.197	0.147
1961	0.021	0.149	0.188	0.139
1962	0.034	0.261	0.314	0.262
1963	0.041	0.339	0.394	0.321
1964	0.026	0.251	0.255	0.244
1965	0.022	0.234	0.346	0.241
1966	0.021	0.283	0.313	0.280
1967	0.012	0.214	0.277	0.202
1968	0.016	0.263	0.327	0.246
1969	0.011	0.235	0.322	0.238
1970	0.019	0.263	0.344	0.303
1971	0.007	0.234	0.322	0.226
1972	0.010	0.190	0.275	0.208
1973	0.008	0.171	0.249	0.166
1974	0.008	0.165	0.232	0.141
1975	0.005	0.141	0.236	0.131
1976	0.007	0.136	0.235	0.109
1977	0.004	0.107	0.227	0.086
1978	0.003	0.101	0.211	0.074
1979	0.002	0.122	0.244	0.089
1980	0.001	0.098	0.203	0.047
1981	0.003	0.141	0.217	0.048
1982	0.004	0.149	0.199	0.049

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.056
.	.	.	4.864
.	.	.	4.966
.	.	.	4.467
.	.	.	4.993
.	.	.	4.649
.	.	.	5.180
.	.	.	5.597
.	.	.	5.596
.	.	.	5.331
.	.	.	6.123
.	.	.	5.184
.	.	.	6.396
.	.	.	4.802
.	.	.	3.790
0.137	.	.	3.703
0.104	.	.	3.287
0.182	.	.	5.663
0.242	.	.	7.238
0.166	0.085	0.007	5.164
0.174	0.094	0.010	5.610
0.171	0.071	0.009	5.737
0.139	0.063	0.003	4.549
0.156	0.080	0.005	5.464
0.153	0.057	0.008	5.118
0.177	0.074	0.004	5.921
0.154	0.072	0.007	5.112
0.135	0.053	0.007	4.384
0.094	0.042	0.003	3.661
0.067	0.033	0.004	3.249
0.061	0.024	0.004	3.009
0.049	0.010	0.003	2.737
0.033	0.014	0.002	2.366
0.031	0.006	0.003	2.144
0.025	0.013	0.001	2.479
0.007	0.005	0.001	1.809
0.011	0.003	0.001	2.118
0.012	0.003	.	2.079

Basic Table 16.B. Urban Shandong Province (15): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.059	•	•	•
1941	0.063	•	•	•
1942	0.063	•	•	•
1943	0.046	•	•	•
1944	0.044	•	•	•
1945	0.026	0.138	•	•
1946	0.035	0.244	•	•
1947	0.063	0.260	•	•
1948	0.035	0.119	•	•
1949	0.035	0.221	•	•
1950	0.053	0.165	0.295	•
1951	0.053	0.300	0.217	•
1952	0.067	0.305	0.251	•
1953	0.043	0.191	0.273	•
1954	0.042	0.333	0.301	•
1955	0.054	0.213	0.382	0.197
1956	0.030	0.228	0.265	0.262
1957	0.056	0.300	0.385	0.269
1958	0.012	0.242	0.313	0.301
1959	0.015	0.203	0.182	0.248
1960	•	0.206	0.310	0.156
1961	•	0.111	0.158	0.150
1962	0.028	0.169	0.308	0.242
1963	0.036	0.308	0.397	0.356
1964	0.020	0.180	0.296	0.165
1965	0.009	0.179	0.340	0.168
1966	•	0.070	0.162	0.132
1967	•	0.098	0.270	0.125
1968	0.007	0.108	0.222	0.164
1969	0.006	0.113	0.314	0.110
1970	0.005	0.214	0.344	0.143
1971	•	0.106	0.252	0.121
1972	0.004	0.083	0.252	0.101
1973	•	0.066	0.193	0.123
1974	•	0.057	0.164	0.075
1975	•	0.065	0.233	0.105
1976	•	0.031	0.196	0.042
1977	•	0.023	0.165	0.042
1978	•	•	0.206	•
1979	•	•	0.137	0.051
1980	•	0.007	0.165	0.037
1981	•	0.014	0.201	0.016
1982	•	0.065	0.212	0.029

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.052
.	.	.	4.721
.	.	.	4.448
.	.	.	4.374
.	.	.	5.777
.	.	.	4.398
.	.	.	4.933
.	.	.	6.197
.	.	.	5.416
.	.	.	6.388
.	.	.	5.764
.	.	.	5.364
.	.	.	7.110
.	.	.	5.501
.	.	.	4.730
0.177	.	.	4.633
0.081	.	.	2.715
0.179	.	.	5.211
0.237	.	.	7.283
0.124	0.051	.	4.180
0.052	0.030	0.014	3.962
0.027	0.027	0.012	2.146
0.027	.	.	2.599
0.043	.	.	2.720
0.026	.	.	2.845
0.062	0.026	.	3.972
0.018	0.009	.	2.530
0.008	.	.	2.241
0.009	.	.	1.954
0.034	0.017	.	1.736
0.045	.	.	2.237
0.010	0.009	.	1.441
0.011	.	.	1.206
.	.	.	1.030
0.015	.	.	1.018
0.015	.	.	1.120
.	.	.	1.152
.	.	.	1.532

Basic Table 16.C. Rural Shandong Province (15): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.063	.	.	.
1941	0.074	.	.	.
1942	0.063	.	.	.
1943	0.051	.	.	.
1944	0.050	.	.	.
1945	0.062	0.280	.	.
1946	0.058	0.235	.	.
1947	0.065	0.232	.	.
1948	0.058	0.244	.	.
1949	0.086	0.229	.	.
1950	0.064	0.221	0.239	.
1951	0.077	0.259	0.249	.
1952	0.067	0.264	0.281	.
1953	0.076	0.268	0.280	.
1954	0.066	0.260	0.261	.
1955	0.080	0.293	0.322	0.250
1956	0.047	0.257	0.261	0.226
1957	0.059	0.309	0.337	0.261
1958	0.044	0.219	0.236	0.224
1959	0.023	0.173	0.214	0.155
1960	0.026	0.177	0.189	0.146
1961	0.022	0.151	0.190	0.138
1962	0.035	0.267	0.315	0.264
1963	0.041	0.340	0.394	0.319
1964	0.026	0.254	0.251	0.250
1965	0.023	0.236	0.347	0.246
1966	0.022	0.291	0.323	0.290
1967	0.013	0.219	0.277	0.208
1968	0.016	0.270	0.332	0.252
1969	0.012	0.241	0.322	0.248
1970	0.020	0.266	0.344	0.315
1971	0.008	0.241	0.325	0.233
1972	0.010	0.196	0.275	0.215
1973	0.009	0.177	0.251	0.168
1974	0.009	0.171	0.236	0.144
1975	0.006	0.146	0.236	0.132
1976	0.008	0.143	0.238	0.111
1977	0.004	0.114	0.231	0.088
1978	0.004	0.110	0.211	0.077
1979	0.003	0.134	0.250	0.091
1980	0.001	0.108	0.205	0.048
1981	0.003	0.155	0.218	0.050
1982	0.004	0.158	0.198	0.051

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.221
.	.	.	4.875
.	.	.	5.008
.	.	.	4.474
.	.	.	4.932
.	.	.	4.668
.	.	.	5.200
.	.	.	5.550
.	.	.	5.610
.	.	.	5.249
.	.	.	6.151
.	.	.	5.170
.	.	.	6.343
.	.	.	4.751
.	.	.	3.724
0.134	.	.	3.639
0.106	.	.	3.326
0.182	.	.	5.693
0.243	.	.	7.235
0.170	0.088	0.007	5.227
0.184	0.100	0.010	5.729
0.182	0.075	0.009	5.961
0.147	0.069	0.003	4.676
0.164	0.087	0.005	5.635
0.161	0.062	0.008	5.270
0.184	0.078	0.004	6.057
0.163	0.077	0.008	5.272
0.144	0.056	0.008	4.520
0.100	0.045	0.003	3.764
0.069	0.034	0.005	3.335
0.062	0.025	0.004	3.058
0.051	0.010	0.003	2.814
0.034	0.015	0.002	2.438
0.032	0.007	0.003	2.219
0.025	0.014	0.001	2.587
0.007	0.005	0.001	1.873
0.011	0.003	0.001	2.208
0.012	0.003	.	2.130

Basic Table 17.A. Total Henan Province (16): age-specific fertility rates,

Birth year of child	15-19	20-24	25-29	30-34
1940	0.070	.	.	.
1941	0.066	.	.	.
1942	0.057	.	.	.
1943	0.048	.	.	.
1944	0.049	.	.	.
1945	0.066	0.234	.	.
1946	0.080	0.229	.	.
1947	0.061	0.249	.	.
1948	0.060	0.257	.	.
1949	0.074	0.235	.	.
1950	0.065	0.261	0.252	.
1951	0.092	0.272	0.246	.
1952	0.109	0.296	0.283	.
1953	0.084	0.275	0.243	.
1954	0.084	0.273	0.282	.
1955	0.085	0.285	0.270	0.250
1956	0.070	0.255	0.226	0.214
1957	0.074	0.281	0.275	0.236
1958	0.039	0.209	0.226	0.214
1959	0.023	0.160	0.187	0.162
1960	0.027	0.151	0.165	0.135
1961	0.019	0.134	0.153	0.116
1962	0.034	0.276	0.319	0.257
1963	0.047	0.380	0.402	0.354
1964	0.045	0.249	0.297	0.264
1965	0.041	0.280	0.300	0.291
1966	0.036	0.318	0.321	0.296
1967	0.030	0.266	0.305	0.270
1968	0.024	0.317	0.362	0.304
1969	0.027	0.259	0.302	0.269
1970	0.026	0.258	0.341	0.281
1971	0.021	0.255	0.324	0.268
1972	0.017	0.225	0.325	0.251
1973	0.016	0.201	0.291	0.230
1974	0.013	0.215	0.299	0.219
1975	0.009	0.158	0.242	0.155
1976	0.007	0.149	0.239	0.138
1977	0.004	0.145	0.238	0.128
1978	0.004	0.133	0.253	0.154
1979	0.002	0.152	0.273	0.136
1980	0.003	0.134	0.228	0.081
1981	0.005	0.154	0.259	0.099
1982	0.007	0.157	0.210	0.072

1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.608
.	.	.	4.524
.	.	.	5.205
.	.	.	4.563
.	.	.	4.723
.	.	.	4.997
.	.	.	5.358
.	.	.	5.795
.	.	.	5.278
.	.	.	5.626
.	.	.	5.657
.	.	.	5.020
.	.	.	5.670
.	.	.	4.510
.	.	.	3.570
0.126	.	.	3.281
0.068	.	.	2.618
0.206	.	.	5.887
0.308	.	.	8.068
0.195	0.095	0.015	5.803
0.197	0.107	0.010	6.129
0.257	0.118	0.012	6.791
0.204	0.111	0.006	5.952
0.255	0.135	0.008	7.025
0.223	0.108	0.019	6.035
0.248	0.103	0.019	6.381
0.207	0.097	0.009	5.899
0.204	0.091	0.016	5.651
0.163	0.080	0.005	4.926
0.144	0.072	0.007	4.846
0.093	0.047	0.004	3.534
0.073	0.038	0.001	3.226
0.053	0.029	0.004	3.004
0.072	0.022	0.005	3.208
0.052	0.022	0.001	3.192
0.030	0.003	0.002	2.428
0.034	0.009	0.002	2.808
0.026	0.007	0.001	2.400

Basic Table 17.B. Urban Henan Province (16): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.095	.	.	.
1941	0.031	.	.	.
1942	0.038	.	.	.
1943	0.046	.	.	.
1944	0.033	.	.	.
1945	0.024	0.226	.	.
1946	0.075	0.224	.	.
1947	0.058	0.162	.	.
1948	0.056	0.192	.	.
1949	0.076	0.284	.	.
1950	0.033	0.257	0.202	.
1951	0.102	0.225	0.184	.
1952	0.105	0.292	0.323	.
1953	0.058	0.200	0.201	.
1954	0.064	0.271	0.268	.
1955	0.067	0.222	0.217	0.250
1956	0.045	0.180	0.233	0.163
1957	0.075	0.232	0.267	0.190
1958	0.026	0.206	0.272	0.146
1959	0.027	0.216	0.188	0.195
1960	0.045	0.195	0.215	0.121
1961	0.023	0.140	0.150	0.142
1962	0.032	0.257	0.242	0.208
1963	0.069	0.355	0.317	0.336
1964	0.013	0.255	0.314	0.222
1965	0.055	0.335	0.240	0.189
1966	0.013	0.215	0.189	0.180
1967	.	0.227	0.286	0.132
1968	0.006	0.234	0.308	0.197
1969	0.011	0.174	0.260	0.221
1970	0.005	0.198	0.315	0.191
1971	0.009	0.126	0.203	0.140
1972	.	0.175	0.233	0.191
1973	0.004	0.100	0.234	0.147
1974	0.004	0.094	0.221	0.159
1975	0.004	0.035	0.239	0.120
1976	0.004	0.069	0.140	0.116
1977	.	0.049	0.194	0.058
1978	.	0.048	0.176	0.103
1979	.	0.063	0.193	0.134
1980	.	0.040	0.182	0.034
1981	0.002	0.040	0.183	0.047
1982	.	0.061	0.174	0.026

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.368
.	.	.	4.375
.	.	.	4.552
.	.	.	3.809
.	.	.	4.544
.	.	.	4.812
.	.	.	4.474
.	.	.	6.780
.	.	.	3.852
.	.	.	5.813
.	.	.	4.931
.	.	.	4.326
.	.	.	5.141
.	.	.	4.375
.	.	.	4.413
0.131	.	.	4.022
0.071	.	.	2.751
0.181	.	.	4.996
0.293	.	.	7.278
0.187	0.013	0.039	5.219
0.088	0.071	.	4.892
0.158	0.061	0.044	4.304
0.092	0.057	.	3.965
0.152	0.183	.	5.397
0.160	0.065	0.026	4.583
0.085	0.024	0.024	4.208
0.132	0.058	.	3.342
0.074	0.033	0.019	3.624
0.072	0.008	.	2.828
0.088	0.021	.	2.938
0.027	0.026	.	2.254
0.041	0.012	.	1.907
0.033	0.026	.	1.807
0.035	0.010	0.003	1.900
0.018	0.010	.	2.093
.	.	.	1.281
0.017	.	.	1.446
.	.	.	1.305

Basic Table 17.C. Rural Henan Province (16): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.068	.	.	.
1941	0.069	.	.	.
1942	0.058	.	.	.
1943	0.048	.	.	.
1944	0.051	.	.	.
1945	0.070	0.235	.	.
1946	0.081	0.230	.	.
1947	0.061	0.257	.	.
1948	0.061	0.262	.	.
1949	0.074	0.230	.	.
1950	0.069	0.262	0.256	.
1951	0.091	0.277	0.251	.
1952	0.109	0.296	0.280	.
1953	0.088	0.283	0.247	.
1954	0.087	0.273	0.283	.
1955	0.098	0.292	0.276	0.250
1956	0.074	0.264	0.225	0.218
1957	0.074	0.288	0.276	0.240
1958	0.042	0.210	0.221	0.220
1959	0.023	0.152	0.187	0.158
1960	0.024	0.143	0.159	0.136
1961	0.019	0.133	0.153	0.113
1962	0.034	0.280	0.328	0.262
1963	0.046	0.384	0.415	0.356
1964	0.047	0.248	0.294	0.269
1965	0.040	0.272	0.310	0.302
1966	0.037	0.330	0.346	0.310
1967	0.032	0.269	0.309	0.288
1968	0.025	0.324	0.372	0.320
1969	0.028	0.265	0.309	0.276
1970	0.028	0.262	0.345	0.296
1971	0.022	0.263	0.339	0.292
1972	0.019	0.228	0.334	0.263
1973	0.017	0.208	0.296	0.244
1974	0.014	0.223	0.305	0.229
1975	0.009	0.166	0.242	0.160
1976	0.007	0.155	0.245	0.141
1977	0.005	0.153	0.240	0.135
1978	0.004	0.140	0.258	0.158
1979	0.002	0.160	0.278	0.137
1980	0.004	0.143	0.231	0.084
1981	0.005	0.168	0.265	0.102
1982	0.008	0.169	0.213	0.075

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.628
.	.	.	4.536
.	.	.	5.259
.	.	.	4.627
.	.	.	4.739
.	.	.	5.013
.	.	.	5.439
.	.	.	5.700
.	.	.	5.421
.	.	.	5.607
.	.	.	5.736
.	.	.	5.097
.	.	.	5.730
.	.	.	4.525
.	.	.	3.473
0.126	.	.	3.196
0.067	.	.	2.603
0.208	.	.	5.985
0.309	.	.	8.154
0.196	0.101	0.014	5.845
0.208	0.110	0.011	6.266
0.266	0.123	0.010	7.113
0.215	0.115	0.006	6.169
0.265	0.131	0.009	7.225
0.230	0.113	0.019	6.198
0.267	0.111	0.019	6.636
0.216	0.100	0.009	6.206
0.221	0.097	0.016	5.888
0.176	0.087	0.005	5.166
0.153	0.077	0.007	5.043
0.105	0.049	0.004	3.676
0.079	0.041	0.002	3.350
0.057	0.029	0.004	3.116
0.079	0.023	0.005	3.334
0.058	0.024	0.002	3.300
0.034	0.009	0.002	2.541
0.036	0.011	0.002	2.942
0.028	0.008	0.001	2.512

Basic Table 18.A. Total Hubei Province (17): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.062	.	.	.
1941	0.084	.	.	.
1942	0.062	.	.	.
1943	0.108	.	.	.
1944	0.083	.	.	.
1945	0.073	0.241	.	.
1946	0.074	0.272	.	.
1947	0.074	0.258	.	.
1948	0.069	0.316	.	.
1949	0.070	0.286	.	.
1950	0.083	0.269	0.238	.
1951	0.088	0.278	0.295	.
1952	0.109	0.313	0.309	.
1953	0.113	0.290	0.267	.
1954	0.128	0.311	0.298	.
1955	0.106	0.304	0.310	0.252
1956	0.076	0.299	0.275	0.210
1957	0.091	0.358	0.350	0.294
1958	0.088	0.322	0.288	0.247
1959	0.046	0.238	0.277	0.212
1960	0.030	0.157	0.161	0.140
1961	0.043	0.215	0.274	0.207
1962	0.070	0.380	0.382	0.314
1963	0.093	0.371	0.383	0.332
1964	0.066	0.333	0.315	0.268
1965	0.058	0.309	0.315	0.261
1966	0.043	0.319	0.342	0.276
1967	0.033	0.256	0.271	0.248
1968	0.046	0.345	0.395	0.328
1969	0.046	0.299	0.314	0.269
1970	0.040	0.278	0.331	0.254
1971	0.027	0.277	0.327	0.236
1972	0.027	0.225	0.283	0.207
1973	0.014	0.204	0.249	0.179
1974	0.015	0.197	0.254	0.139
1975	0.018	0.178	0.246	0.104
1976	0.017	0.202	0.213	0.105
1977	0.006	0.167	0.229	0.079
1978	0.006	0.151	0.233	0.078
1979	0.008	0.191	0.251	0.092
1980	0.005	0.159	0.196	0.053
1981	0.011	0.211	0.207	0.048
1982	0.017	0.197	0.156	0.047

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.093
.	.	.	5.618
.	.	.	5.196
.	.	.	5.867
.	.	.	5.487
.	.	.	5.264
.	.	.	5.894
.	.	.	6.214
.	.	.	5.773
.	.	.	6.326
.	.	.	6.294
.	.	.	5.489
.	.	.	7.218
.	.	.	6.057
.	.	.	5.061
0.090	.	.	3.095
0.127	.	.	4.647
0.238	.	.	7.518
0.276	.	.	7.952
0.194	0.084	0.005	6.326
0.192	0.091	0.009	6.179
0.235	0.140	0.009	6.824
0.208	0.065	0.003	5.422
0.219	0.114	0.005	7.266
0.214	0.097	0.010	6.248
0.190	0.091	0.009	5.966
0.197	0.079	0.007	5.747
0.136	0.066	0.005	4.745
0.102	0.043	0.005	3.982
0.091	0.040	0.007	3.722
0.071	0.027	0.002	3.232
0.047	0.027	0.004	3.078
0.038	0.018	0.006	2.712
0.023	0.012	0.001	2.523
0.033	0.013	0.001	2.949
0.021	0.008	0.002	2.221
0.020	0.002	0.002	2.503
0.013	0.012	.	2.214

Basic Table 18.B. Urban Hubei Province (17): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.097	.	.	.
1941	0.119	.	.	.
1942	0.073	.	.	.
1943	0.116	.	.	.
1944	0.066	.	.	.
1945	0.045	0.172	.	.
1946	0.085	0.173	.	.
1947	0.072	0.198	.	.
1948	0.068	0.294	.	.
1949	0.025	0.273	.	.
1950	0.118	0.318	0.205	.
1951	0.090	0.237	0.227	.
1952	0.081	0.200	0.188	.
1953	0.126	0.328	0.189	.
1954	0.113	0.240	0.255	.
1955	0.074	0.281	0.299	0.162
1956	0.028	0.295	0.262	0.184
1957	0.058	0.373	0.328	0.261
1958	0.060	0.298	0.192	0.137
1959	0.035	0.290	0.339	0.198
1960	0.023	0.251	0.242	0.200
1961	0.020	0.153	0.280	0.186
1962	0.038	0.333	0.387	0.208
1963	0.057	0.276	0.365	0.335
1964	0.016	0.229	0.248	0.197
1965	0.011	0.192	0.181	0.141
1966	0.006	0.118	0.209	0.105
1967	0.008	0.104	0.173	0.153
1968	0.008	0.177	0.359	0.155
1969	0.008	0.151	0.234	0.185
1970	0.003	0.168	0.229	0.119
1971	0.005	0.101	0.270	0.141
1972	0.011	0.065	0.208	0.115
1973	.	0.047	0.208	0.104
1974	.	0.046	0.188	0.078
1975	0.003	0.066	0.216	0.064
1976	0.003	0.049	0.174	0.064
1977	.	0.050	0.249	0.080
1978	0.003	0.059	0.253	0.080
1979	0.003	0.046	0.204	0.094
1980	.	0.022	0.177	0.048
1981	0.003	0.086	0.211	0.044
1982	.	0.117	0.123	0.016

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.014
.	.	.	5.395
.	.	.	4.705
.	.	.	5.092
.	.	.	5.247
.	.	.	5.866
.	.	.	5.520
.	.	.	4.656
.	.	.	5.900
.	.	.	5.527
.	.	.	6.104
.	.	.	4.961
.	.	.	7.620
.	.	.	4.460
.	.	.	6.017
0.108	.	.	4.438
0.097	.	.	3.991
0.136	.	.	6.206
0.221	.	.	7.018
0.170	0.034	.	4.474
0.082	0.043	.	3.246
0.093	0.065	.	2.982
0.056	0.010	.	2.523
0.048	0.021	.	3.836
0.105	0.038	.	3.597
0.073	0.036	.	3.140
0.080	.	0.032	3.150
0.058	0.016	.	2.365
0.034	0.014	0.011	2.082
0.013	0.012	0.009	1.729
0.025	0.006	.	1.892
0.020	.	.	1.550
0.012	.	.	1.956
0.004	.	.	1.995
.	0.004	.	1.756
0.009	0.004	.	1.299
0.005	.	.	1.747
.	.	.	1.280

Basic Table 18.C. Rural Hubei Province (17): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.058	.	.	.
1941	0.080	.	.	.
1942	0.060	.	.	.
1943	0.108	.	.	.
1944	0.085	.	.	.
1945	0.078	0.250	.	.
1946	0.072	0.284	.	.
1947	0.075	0.265	.	.
1948	0.069	0.319	.	.
1949	0.079	0.288	.	.
1950	0.076	0.261	0.242	.
1951	0.087	0.285	0.303	.
1952	0.116	0.332	0.324	.
1953	0.110	0.283	0.277	.
1954	0.132	0.325	0.304	.
1955	0.115	0.309	0.312	0.263
1956	0.089	0.300	0.277	0.213
1957	0.100	0.354	0.354	0.298
1958	0.095	0.329	0.305	0.261
1959	0.048	0.223	0.264	0.214
1960	0.031	0.132	0.144	0.131
1961	0.048	0.232	0.272	0.210
1962	0.076	0.392	0.381	0.332
1963	0.099	0.393	0.388	0.332
1964	0.075	0.356	0.334	0.281
1965	0.068	0.332	0.353	0.287
1966	0.051	0.355	0.379	0.317
1967	0.039	0.284	0.296	0.272
1968	0.055	0.376	0.404	0.376
1969	0.056	0.327	0.332	0.293
1970	0.048	0.301	0.351	0.291
1971	0.032	0.317	0.337	0.262
1972	0.031	0.263	0.296	0.232
1973	0.017	0.243	0.256	0.198
1974	0.018	0.235	0.267	0.153
1975	0.021	0.204	0.253	0.112
1976	0.020	0.237	0.222	0.113
1977	0.008	0.192	0.224	0.079
1978	0.007	0.170	0.228	0.077
1979	0.009	0.221	0.263	0.092
1980	0.006	0.189	0.200	0.055
1981	0.012	0.237	0.206	0.049
1982	0.019	0.213	0.163	0.054

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.104
.	.	.	5.649
.	.	.	5.267
.	.	.	5.981
.	.	.	5.523
.	.	.	5.168
.	.	.	5.956
.	.	.	6.479
.	.	.	5.750
.	.	.	6.470
.	.	.	6.330
.	.	.	5.589
.	.	.	7.142
.	.	.	6.361
.	.	.	4.880
0.088	.	.	2.842
0.131	.	.	4.771
0.251	.	.	7.766
0.283	.	.	8.129
0.198	0.090	0.005	6.703
0.208	0.097	0.010	6.779
0.257	0.149	0.011	7.599
0.234	0.072	0.003	6.003
0.251	0.126	0.006	7.968
0.236	0.105	0.011	6.799
0.216	0.099	0.011	6.586
0.225	0.091	0.004	6.341
0.155	0.075	0.005	5.286
0.121	0.049	0.004	4.437
0.113	0.046	0.007	4.193
0.084	0.032	0.003	3.544
0.054	0.033	0.004	3.420
0.044	0.022	0.007	2.878
0.028	0.013	0.001	2.633
0.040	0.015	0.001	3.207
0.023	0.009	0.002	2.418
0.022	0.002	0.002	2.656
0.016	0.015	.	2.401

Basic Table 19.A. Total Hunan Province (18): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.073	.	.	.
1941	0.084	.	.	.
1942	0.084	.	.	.
1943	0.082	.	.	.
1944	0.091	.	.	.
1945	0.075	0.236	.	.
1946	0.067	0.270	.	.
1947	0.092	0.267	.	.
1948	0.085	0.310	.	.
1949	0.099	0.320	.	.
1950	0.089	0.304	0.296	.
1951	0.123	0.298	0.287	.
1952	0.111	0.329	0.313	.
1953	0.116	0.326	0.321	.
1954	0.101	0.301	0.318	.
1955	0.102	0.280	0.293	0.240
1956	0.099	0.298	0.325	0.261
1957	0.092	0.323	0.313	0.263
1958	0.071	0.258	0.267	0.254
1959	0.025	0.200	0.219	0.183
1960	0.023	0.176	0.190	0.152
1961	0.019	0.137	0.145	0.125
1962	0.054	0.331	0.348	0.331
1963	0.091	0.401	0.397	0.329
1964	0.074	0.335	0.360	0.296
1965	0.060	0.329	0.339	0.285
1966	0.063	0.344	0.337	0.293
1967	0.043	0.256	0.284	0.242
1968	0.056	0.395	0.407	0.324
1969	0.051	0.308	0.285	0.302
1970	0.046	0.308	0.308	0.272
1971	0.041	0.309	0.326	0.223
1972	0.030	0.303	0.271	0.227
1973	0.030	0.251	0.281	0.168
1974	0.025	0.254	0.279	0.170
1975	0.016	0.248	0.257	0.137
1976	0.013	0.214	0.209	0.108
1977	0.008	0.196	0.203	0.081
1978	0.007	0.173	0.198	0.070
1979	0.008	0.203	0.202	0.064
1980	0.003	0.200	0.201	0.049
1981	0.013	0.275	0.222	0.054
1982	0.019	0.258	0.265	0.060

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.892
.	.	.	5.460
.	.	.	5.573
.	.	.	5.790
.	.	.	6.146
.	.	.	5.870
.	.	.	5.951
.	.	.	6.325
.	.	.	6.359
.	.	.	6.202
.	.	.	5.831
.	.	.	6.260
.	.	.	6.302
.	.	.	5.546
.	.	.	4.093
0.146	.	.	3.723
0.085	.	.	2.689
0.213	.	.	6.684
0.286	.	.	8.100
0.231	0.116	0.014	7.126
0.223	0.103	0.014	6.759
0.239	0.112	0.012	6.998
0.207	0.075	0.008	5.582
0.227	0.110	0.019	7.686
0.204	0.106	0.011	6.337
0.194	0.089	0.004	6.110
0.155	0.084	0.011	5.745
0.139	0.075	0.006	5.260
0.121	0.051	0.007	4.545
0.125	0.052	0.007	4.561
0.090	0.041	0.004	3.971
0.046	0.033	0.005	3.142
0.033	0.022	0.004	2.729
0.025	0.015	0.005	2.459
0.022	0.015	0.002	2.576
0.016	0.006	0.001	2.379
0.027	0.007	0.002	2.995
0.025	0.017	0.003	3.241

Basic Table 19.B. Urban Hunan Province (18): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.060	.	.	.
1941	0.080	.	.	.
1942	0.104	.	.	.
1943	0.060	.	.	.
1944	0.090	.	.	.
1945	0.072	0.195	.	.
1946	0.057	0.161	.	.
1947	0.104	0.264	.	.
1948	0.079	0.238	.	.
1949	0.067	0.317	.	.
1950	0.098	0.228	0.222	.
1951	0.110	0.258	0.230	.
1952	0.079	0.227	0.264	.
1953	0.128	0.282	0.192	.
1954	0.076	0.202	0.317	.
1955	0.093	0.269	0.254	0.206
1956	0.044	0.258	0.258	0.201
1957	0.091	0.335	0.325	0.203
1958	0.024	0.313	0.265	0.225
1959	0.040	0.280	0.208	0.124
1960	0.017	0.207	0.232	0.117
1961	0.017	0.140	0.180	0.126
1962	0.050	0.280	0.263	0.202
1963	0.024	0.297	0.306	0.209
1964	0.015	0.298	0.341	0.174
1965	0.013	0.253	0.236	0.141
1966	0.006	0.084	0.229	0.129
1967	0.006	0.201	0.205	0.072
1968	0.015	0.206	0.193	0.121
1969	0.018	0.146	0.217	0.151
1970	0.009	0.121	0.228	0.114
1971	0.020	0.117	0.168	0.022
1972	0.004	0.117	0.142	0.114
1973	0.004	0.049	0.103	0.064
1974	.	0.071	0.161	0.072
1975	0.004	0.090	0.148	0.067
1976	0.005	0.073	0.160	0.025
1977	.	0.061	0.200	0.058
1978	.	0.061	0.153	0.032
1979	.	0.048	0.138	0.038
1980	.	0.035	0.181	0.067
1981	.	0.129	0.121	0.025
1982	.	0.062	0.168	0.033

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.467
.	.	.	3.774
.	.	.	5.472
.	.	.	4.458
.	.	.	5.249
.	.	.	5.042
.	.	.	5.055
.	.	.	5.200
.	.	.	5.157
.	.	.	4.850
.	.	.	5.487
.	.	.	4.759
.	.	.	6.013
.	.	.	5.309
.	.	.	4.081
0.146	.	.	3.925
0.063	.	.	2.888
0.160	.	.	5.042
0.165	.	.	5.298
0.124	0.037	0.013	5.014
0.059	0.043	0.019	3.815
0.069	0.023	.	2.700
0.067	0.006	.	2.784
0.068	0.013	.	3.076
0.056	0.034	0.005	3.143
0.043	0.007	.	2.604
0.039	0.013	0.006	1.923
0.033	.	.	2.046
0.014	.	.	1.172
0.023	.	.	1.639
0.021	.	.	1.658
.	.	.	1.315
.	.	0.006	1.631
.	.	.	1.227
.	.	.	1.126
.	.	.	1.415
0.017	.	.	1.460
0.033	.	.	1.476

Basic Table 19.C. Rural Hunan Province (18): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.076	•	•	•
1941	0.085	•	•	•
1942	0.081	•	•	•
1943	0.086	•	•	•
1944	0.091	•	•	•
1945	0.075	0.245	•	•
1946	0.069	0.293	•	•
1947	0.090	0.268	•	•
1948	0.086	0.323	•	•
1949	0.104	0.320	•	•
1950	0.088	0.317	0.313	•
1951	0.125	0.304	0.299	•
1952	0.115	0.346	0.322	•
1953	0.115	0.334	0.344	•
1954	0.104	0.318	0.318	•
1955	0.103	0.281	0.300	0.247
1956	0.106	0.304	0.336	0.274
1957	0.092	0.321	0.311	0.275
1958	0.077	0.252	0.267	0.260
1959	0.023	0.190	0.221	0.193
1960	0.023	0.172	0.184	0.158
1961	0.020	0.136	0.140	0.125
1962	0.054	0.338	0.360	0.352
1963	0.097	0.413	0.409	0.350
1964	0.079	0.339	0.362	0.317
1965	0.064	0.337	0.352	0.307
1966	0.068	0.369	0.351	0.317
1967	0.048	0.262	0.294	0.265
1968	0.061	0.412	0.432	0.349
1969	0.056	0.322	0.293	0.320
1970	0.051	0.326	0.316	0.293
1971	0.043	0.328	0.342	0.248
1972	0.034	0.323	0.283	0.242
1973	0.034	0.274	0.298	0.180
1974	0.028	0.277	0.289	0.181
1975	0.018	0.268	0.267	0.144
1976	0.014	0.232	0.214	0.116
1977	0.009	0.214	0.203	0.083
1978	0.008	0.187	0.203	0.073
1979	0.009	0.223	0.210	0.066
1980	0.004	0.222	0.204	0.047
1981	0.014	0.294	0.235	0.057
1982	0.021	0.282	0.278	0.063

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.985
•	•	•	5.822
•	•	•	5.594
•	•	•	6.066
•	•	•	6.328
•	•	•	6.033
•	•	•	6.124
•	•	•	6.537
•	•	•	6.582
•	•	•	6.449
•	•	•	5.893
•	•	•	6.529
•	•	•	6.352
•	•	•	5.586
•	•	•	4.095
0.145	•	•	3.689
0.090	•	•	2.657
0.224	•	•	6.944
0.308	•	•	8.535
0.249	0.135	0.014	7.474
0.251	0.117	0.013	7.204
0.268	0.131	0.015	7.595
0.231	0.089	0.010	5.989
0.255	0.127	0.023	8.300
0.229	0.118	0.012	6.750
0.217	0.103	0.005	6.560
0.172	0.096	0.012	6.211
0.154	0.088	0.007	5.651
0.134	0.060	0.008	4.939
0.138	0.061	0.008	4.910
0.100	0.048	0.003	4.243
0.052	0.038	0.005	3.360
0.037	0.025	0.003	2.867
0.027	0.017	0.006	2.608
0.024	0.017	0.002	2.753
0.017	0.007	0.001	2.505
0.028	0.008	0.002	3.186
0.024	0.019	0.004	3.455

Basic Table 20.A. Total Guangdong Province (19): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.040	.	.	.
1941	0.046	.	.	.
1942	0.044	.	.	.
1943	0.057	.	.	.
1944	0.050	.	.	.
1945	0.044	0.211	.	.
1946	0.040	0.178	.	.
1947	0.030	0.214	.	.
1948	0.035	0.203	.	.
1949	0.041	0.206	.	.
1950	0.041	0.222	0.247	.
1951	0.042	0.206	0.265	.
1952	0.062	0.212	0.246	.
1953	0.048	0.255	0.273	.
1954	0.045	0.234	0.279	.
1955	0.053	0.247	0.260	0.231
1956	0.047	0.222	0.282	0.238
1957	0.050	0.268	0.298	0.272
1958	0.042	0.235	0.275	0.237
1959	0.028	0.195	0.242	0.225
1960	0.018	0.160	0.183	0.170
1961	0.024	0.169	0.223	0.169
1962	0.030	0.266	0.354	0.306
1963	0.041	0.266	0.337	0.283
1964	0.044	0.262	0.322	0.256
1965	0.048	0.233	0.285	0.248
1966	0.037	0.244	0.320	0.269
1967	0.027	0.217	0.315	0.219
1968	0.027	0.245	0.319	0.306
1969	0.024	0.236	0.311	0.248
1970	0.027	0.229	0.305	0.260
1971	0.022	0.219	0.314	0.257
1972	0.024	0.211	0.304	0.253
1973	0.019	0.208	0.289	0.222
1974	0.021	0.194	0.284	0.208
1975	0.011	0.187	0.242	0.174
1976	0.012	0.168	0.271	0.153
1977	0.015	0.151	0.245	0.143
1978	0.014	0.154	0.268	0.154
1979	0.011	0.188	0.276	0.147
1980	0.008	0.161	0.284	0.134
1981	0.015	0.218	0.271	0.138
1982	0.025	0.174	0.248	0.096

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.309
.	.	.	3.762
.	.	.	4.338
.	.	.	4.333
.	.	.	4.757
.	.	.	5.013
.	.	.	4.863
.	.	.	4.941
.	.	.	5.289
.	.	.	5.289
.	.	.	5.262
.	.	.	5.195
.	.	.	5.730
.	.	.	5.293
.	.	.	4.685
0.137	.	.	3.689
0.113	.	.	3.847
0.182	.	.	6.090
0.233	.	.	6.286
0.188	0.088	0.011	5.852
0.200	0.039	0.019	5.611
0.206	0.080	0.016	5.853
0.158	0.090	0.012	5.186
0.205	0.085	0.012	5.998
0.192	0.087	0.013	5.551
0.177	0.098	0.015	5.562
0.182	0.075	0.007	5.371
0.167	0.090	0.009	5.285
0.158	0.055	0.011	4.809
0.118	0.053	0.007	4.429
0.092	0.047	0.008	3.809
0.100	0.042	0.010	3.777
0.072	0.033	0.005	3.319
0.082	0.038	0.005	3.579
0.088	0.029	0.010	3.739
0.078	0.033	0.007	3.513
0.081	0.034	0.008	3.827
0.056	0.012	0.006	3.082

Basic Table 20.B. Urban Guangdong Province (19): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.033	.	.	.
1941	0.026	.	.	.
1942	0.050	.	.	.
1943	0.040	.	.	.
1944	0.032	.	.	.
1945	0.035	0.202	.	.
1946	0.067	0.196	.	.
1947	0.021	0.212	.	.
1948	0.048	0.254	.	.
1949	0.051	0.189	.	.
1950	0.042	0.272	0.248	.
1951	0.036	0.265	0.229	.
1952	0.056	0.170	0.281	.
1953	0.042	0.229	0.294	.
1954	0.056	0.195	0.307	.
1955	0.039	0.261	0.262	0.228
1956	0.047	0.208	0.301	0.222
1957	0.030	0.296	0.361	0.262
1958	0.032	0.253	0.237	0.209
1959	0.032	0.196	0.239	0.189
1960	0.021	0.147	0.212	0.141
1961	0.018	0.154	0.212	0.148
1962	0.029	0.226	0.345	0.269
1963	0.025	0.276	0.367	0.249
1964	0.020	0.214	0.257	0.217
1965	0.015	0.181	0.234	0.115
1966	0.015	0.117	0.191	0.111
1967	0.009	0.181	0.251	0.104
1968	0.011	0.155	0.179	0.140
1969	0.003	0.112	0.284	0.088
1970	0.015	0.105	0.253	0.126
1971	.	0.114	0.220	0.121
1972	0.011	0.120	0.238	0.106
1973	0.009	0.092	0.231	0.097
1974	0.004	0.069	0.176	0.129
1975	.	0.054	0.183	0.093
1976	0.002	0.044	0.183	0.054
1977	0.002	0.017	0.176	0.070
1978	0.005	0.030	0.136	0.072
1979	0.002	0.028	0.177	0.064
1980	0.002	0.027	0.199	0.077
1981	.	0.065	0.166	0.059
1982	.	0.061	0.117	0.029

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.259
.	.	.	4.767
.	.	.	4.579
.	.	.	5.500
.	.	.	5.245
.	.	.	5.330
.	.	.	5.099
.	.	.	5.117
.	.	.	5.490
.	.	.	5.340
.	.	.	5.270
.	.	.	5.235
.	.	.	6.045
.	.	.	4.758
.	.	.	4.350
0.124	.	.	3.339
0.059	.	.	3.249
0.131	.	.	5.410
0.203	.	.	5.746
0.036	0.027	0.014	4.179
0.081	0.026	.	3.262
0.076	0.007	.	2.590
0.037	0.006	.	2.940
0.044	0.040	0.007	2.875
0.066	0.011	.	2.816
0.052	.	.	2.758
0.050	0.009	.	2.577
0.019	0.017	.	2.549
0.033	0.004	0.006	2.386
0.008	.	.	1.930
0.013	0.007	.	1.750
0.005	.	.	1.436
0.005	.	.	1.352
0.005	.	.	1.241
0.005	.	.	1.383
.	0.004	.	1.546
0.004	.	0.004	1.485
0.008	.	.	1.075

Basic Table 20.C. Rural Guangdong Province (19): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.042	•	•	•
1941	0.049	•	•	•
1942	0.043	•	•	•
1943	0.061	•	•	•
1944	0.054	•	•	•
1945	0.046	0.213	•	•
1946	0.034	0.174	•	•
1947	0.032	0.214	•	•
1948	0.032	0.194	•	•
1949	0.038	0.209	•	•
1950	0.041	0.212	0.247	•
1951	0.043	0.192	0.271	•
1952	0.064	0.222	0.240	•
1953	0.050	0.262	0.269	•
1954	0.042	0.244	0.274	•
1955	0.056	0.244	0.260	0.232
1956	0.047	0.225	0.278	0.241
1957	0.054	0.261	0.283	0.273
1958	0.043	0.231	0.285	0.242
1959	0.027	0.194	0.243	0.231
1960	0.018	0.162	0.176	0.175
1961	0.025	0.173	0.226	0.174
1962	0.031	0.274	0.356	0.314
1963	0.045	0.264	0.330	0.291
1964	0.049	0.271	0.336	0.267
1965	0.056	0.243	0.296	0.284
1966	0.042	0.270	0.347	0.308
1967	0.031	0.225	0.328	0.246
1968	0.031	0.267	0.345	0.345
1969	0.028	0.266	0.316	0.283
1970	0.030	0.260	0.315	0.289
1971	0.027	0.243	0.333	0.285
1972	0.027	0.232	0.318	0.283
1973	0.021	0.235	0.303	0.245
1974	0.025	0.222	0.311	0.223
1975	0.014	0.216	0.256	0.190
1976	0.014	0.196	0.292	0.174
1977	0.018	0.181	0.261	0.159
1978	0.017	0.182	0.298	0.173
1979	0.012	0.223	0.298	0.167
1980	0.009	0.191	0.302	0.148
1981	0.018	0.253	0.294	0.157
1982	0.028	0.199	0.277	0.112

rates, 1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.319
•	•	•	3.555
•	•	•	4.287
•	•	•	4.086
•	•	•	4.652
•	•	•	4.944
•	•	•	4.812
•	•	•	4.903
•	•	•	5.245
•	•	•	5.278
•	•	•	5.260
•	•	•	5.186
•	•	•	5.663
•	•	•	5.407
•	•	•	4.757
0.139	•	•	3.763
0.122	•	•	3.975
0.190	•	•	6.237
0.238	•	•	6.404
0.207	0.099	0.010	6.195
0.223	0.101	0.023	6.126
0.234	0.093	0.019	6.563
0.187	0.104	0.014	5.673
0.244	0.093	0.014	6.692
0.225	0.101	0.015	6.175
0.211	0.117	0.018	6.201
0.215	0.089	0.008	6.000
0.202	0.107	0.010	5.895
0.186	0.067	0.012	5.345
0.143	0.067	0.008	4.992
0.109	0.057	0.010	4.264
0.119	0.052	0.012	4.294
0.085	0.041	0.006	3.754
0.096	0.047	0.007	4.097
0.103	0.035	0.012	4.256
0.093	0.039	0.008	3.945
0.097	0.041	0.009	4.343
0.067	0.014	0.007	3.520

Basic Table 21.A. Total Guangxi Province (20): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.055	.	.	.
1941	0.052	.	.	.
1942	0.060	.	.	.
1943	0.063	.	.	.
1944	0.061	.	.	.
1945	0.051	0.225	.	.
1946	0.050	0.198	.	.
1947	0.042	0.187	.	.
1948	0.055	0.174	.	.
1949	0.060	0.254	.	.
1950	0.061	0.248	0.256	.
1951	0.065	0.194	0.202	.
1952	0.070	0.279	0.283	.
1953	0.062	0.223	0.267	.
1954	0.063	0.271	0.289	.
1955	0.052	0.267	0.275	0.258
1956	0.059	0.228	0.288	0.228
1957	0.041	0.281	0.295	0.258
1958	0.048	0.267	0.330	0.259
1959	0.023	0.179	0.221	0.199
1960	0.032	0.203	0.230	0.231
1961	0.038	0.179	0.223	0.166
1962	0.057	0.291	0.338	0.298
1963	0.052	0.332	0.377	0.326
1964	0.040	0.312	0.338	0.324
1965	0.039	0.280	0.310	0.302
1966	0.033	0.324	0.363	0.294
1967	0.021	0.202	0.308	0.236
1968	0.038	0.281	0.364	0.298
1969	0.021	0.247	0.325	0.264
1970	0.021	0.217	0.296	0.275
1971	0.023	0.252	0.321	0.240
1972	0.018	0.200	0.299	0.245
1973	0.018	0.215	0.332	0.267
1974	0.020	0.227	0.296	0.254
1975	0.017	0.213	0.294	0.257
1976	0.009	0.182	0.272	0.199
1977	0.009	0.181	0.285	0.172
1978	0.007	0.166	0.268	0.143
1979	0.006	0.172	0.282	0.189
1980	0.008	0.188	0.308	0.178
1981	0.008	0.189	0.291	0.162
1982	0.012	0.213	0.253	0.162

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.427
.	.	.	4.901
.	.	.	4.457
.	.	.	4.773
.	.	.	5.712
.	.	.	5.294
.	.	.	4.407
.	.	.	6.024
.	.	.	5.239
.	.	.	5.735
.	.	.	5.793
.	.	.	5.443
.	.	.	6.146
.	.	.	6.222
.	.	.	4.391
0.172	.	.	4.856
0.127	.	.	4.124
0.156	.	.	6.269
0.269	.	.	7.543
0.232	0.103	0.019	6.838
0.238	0.122	0.019	6.551
0.250	0.151	0.014	7.145
0.176	0.075	0.018	5.179
0.249	0.125	0.022	6.389
0.204	0.113	0.016	5.951
0.205	0.115	0.023	5.760
0.206	0.109	0.024	5.872
0.157	0.093	0.027	5.197
0.176	0.094	0.018	5.601
0.190	0.096	0.021	5.520
0.155	0.056	0.015	5.034
0.126	0.062	0.015	4.332
0.094	0.037	0.014	3.964
0.101	0.029	0.008	3.612
0.095	0.043	0.009	3.977
0.079	0.014	0.007	3.914
0.077	0.031	0.004	3.806
0.085	0.020	0.005	3.753

Basic Table 21.B. Urban Guangxi Province (20): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.035	•	•	•
1941	0.033	•	•	•
1942	0.079	•	•	•
1943	0.024	•	•	•
1944	0.117	•	•	•
1945	•	0.211	•	•
1946	0.140	0.298	•	•
1947	0.096	0.183	•	•
1948	0.098	0.072	•	•
1949	0.082	0.328	•	•
1950	0.095	0.274	0.106	•
1951	0.138	0.280	0.265	•
1952	0.073	0.307	0.236	•
1953	0.155	0.358	0.289	•
1954	0.047	0.275	0.375	•
1955	0.059	0.311	0.211	0.282
1956	0.073	0.263	0.320	0.199
1957	0.060	0.327	0.288	0.367
1958	0.013	0.227	0.309	0.265
1959	0.028	0.223	0.206	0.117
1960	0.041	0.130	0.284	0.190
1961	0.013	0.207	0.188	0.080
1962	0.029	0.288	0.327	0.192
1963	0.014	0.271	0.263	0.358
1964	0.037	0.262	0.212	0.261
1965	0.023	0.245	0.248	0.122
1966	•	0.148	0.268	0.075
1967	0.009	0.189	0.216	0.061
1968	0.016	0.154	0.296	0.167
1969	0.015	0.185	0.221	0.141
1970	0.006	0.135	0.204	0.106
1971	0.011	0.220	0.255	0.073
1972	•	0.082	0.348	0.216
1973	0.010	0.065	0.210	0.103
1974	0.010	0.088	0.185	0.138
1975	•	0.079	0.124	0.136
1976	•	0.063	0.147	0.121
1977	•	0.052	0.201	0.160
1978	•	0.072	0.178	0.042
1979	•	0.070	0.234	0.062
1980	•	0.051	0.103	0.056
1981	0.007	0.039	0.168	0.042
1982	•	0.106	0.149	0.107

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.854
.	.	.	8.846
.	.	.	4.573
.	.	.	3.824
.	.	.	7.899
.	.	.	5.336
.	.	.	5.894
.	.	.	6.692
.	.	.	7.774
.	.	.	6.850
.	.	.	6.116
.	.	.	6.476
.	.	.	7.544
.	.	.	5.689
.	.	.	4.022
0.141	.	.	4.807
0.099	.	.	3.196
0.236	.	.	6.197
0.096	.	.	5.672
0.117	0.104	0.036	5.146
0.042	0.035	.	3.572
0.060	.	.	2.758
0.019	.	.	2.467
0.081	.	.	3.577
0.041	0.023	.	3.132
0.054	0.042	.	2.739
0.025	0.020	.	3.020
0.073	.	.	3.597
0.060	0.016	.	2.318
0.035	0.027	.	2.419
.	0.014	.	1.762
0.012	.	.	1.714
0.012	.	.	2.124
0.026	.	.	1.586
.	0.024	.	1.947
.	.	.	1.053
0.013	.	.	1.344
.	.	.	1.809

Basic Table 21.C. Rural Guangxi Province (20): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.056	.	.	.
1941	0.053	.	.	.
1942	0.059	.	.	.
1943	0.067	.	.	.
1944	0.055	.	.	.
1945	0.056	0.226	.	.
1946	0.042	0.191	.	.
1947	0.037	0.187	.	.
1948	0.052	0.183	.	.
1949	0.058	0.247	.	.
1950	0.058	0.245	0.266	.
1951	0.057	0.187	0.198	.
1952	0.070	0.276	0.287	.
1953	0.051	0.211	0.265	.
1954	0.065	0.271	0.281	.
1955	0.052	0.263	0.281	0.257
1956	0.057	0.224	0.285	0.230
1957	0.039	0.276	0.295	0.248
1958	0.052	0.272	0.332	0.259
1959	0.023	0.174	0.223	0.207
1960	0.031	0.211	0.224	0.235
1961	0.040	0.176	0.227	0.174
1962	0.060	0.291	0.339	0.307
1963	0.056	0.338	0.389	0.323
1964	0.040	0.317	0.352	0.330
1965	0.041	0.283	0.317	0.321
1966	0.037	0.341	0.373	0.317
1967	0.023	0.203	0.317	0.255
1968	0.041	0.293	0.371	0.313
1969	0.021	0.254	0.334	0.278
1970	0.023	0.227	0.305	0.293
1971	0.025	0.256	0.327	0.258
1972	0.021	0.215	0.294	0.248
1973	0.020	0.233	0.344	0.283
1974	0.022	0.245	0.308	0.264
1975	0.019	0.232	0.314	0.268
1976	0.011	0.200	0.287	0.207
1977	0.010	0.203	0.295	0.173
1978	0.008	0.181	0.280	0.153
1979	0.007	0.187	0.288	0.203
1980	0.008	0.207	0.338	0.193
1981	0.008	0.208	0.310	0.176
1982	0.013	0.224	0.270	0.169

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.550
.	.	.	4.594
.	.	.	4.448
.	.	.	4.852
.	.	.	5.526
.	.	.	5.291
.	.	.	4.277
.	.	.	5.965
.	.	.	5.009
.	.	.	5.633
.	.	.	5.763
.	.	.	5.349
.	.	.	6.017
.	.	.	6.271
.	.	.	4.425
0.174	.	.	4.861
0.129	.	.	4.210
0.149	.	.	6.276
0.286	.	.	7.719
0.243	0.103	0.017	7.011
0.257	0.127	0.020	6.829
0.267	0.161	0.015	7.561
0.190	0.081	0.019	5.442
0.265	0.136	0.024	7.213
0.220	0.121	0.017	6.234
0.220	0.122	0.025	6.072
0.226	0.117	0.025	6.166
0.166	0.102	0.029	5.375
0.189	0.102	0.020	5.950
0.207	0.103	0.023	5.861
0.172	0.061	0.016	5.409
0.138	0.069	0.016	4.641
0.102	0.041	0.015	4.203
0.108	0.032	0.009	3.852
0.104	0.045	0.010	4.216
0.086	0.016	0.008	4.277
0.083	0.034	0.004	4.115
0.094	0.023	0.005	3.986

Basic Table 22.A. Total Sichuan Province (21): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.064	.	.	.
1941	0.066	.	.	.
1942	0.060	.	.	.
1943	0.058	.	.	.
1944	0.050	.	.	.
1945	0.051	0.240	.	.
1946	0.057	0.269	.	.
1947	0.065	0.237	.	.
1948	0.056	0.248	.	.
1949	0.069	0.302	.	.
1950	0.064	0.274	0.287	.
1951	0.089	0.277	0.272	.
1952	0.118	0.309	0.325	.
1953	0.104	0.300	0.323	.
1954	0.096	0.303	0.288	.
1955	0.085	0.318	0.305	0.261
1956	0.066	0.286	0.286	0.280
1957	0.064	0.302	0.303	0.266
1958	0.074	0.275	0.308	0.274
1959	0.032	0.161	0.191	0.169
1960	0.019	0.116	0.139	0.129
1961	0.013	0.116	0.135	0.118
1962	0.030	0.209	0.248	0.210
1963	0.071	0.379	0.407	0.357
1964	0.062	0.328	0.313	0.276
1965	0.039	0.301	0.324	0.260
1966	0.045	0.317	0.331	0.293
1967	0.025	0.266	0.298	0.256
1968	0.039	0.319	0.357	0.285
1969	0.034	0.288	0.344	0.278
1970	0.033	0.314	0.321	0.280
1971	0.047	0.282	0.341	0.287
1972	0.035	0.257	0.322	0.245
1973	0.033	0.256	0.309	0.241
1974	0.022	0.248	0.292	0.222
1975	0.019	0.240	0.269	0.181
1976	0.019	0.185	0.227	0.126
1977	0.013	0.152	0.185	0.085
1978	0.004	0.129	0.158	0.056
1979	0.002	0.142	0.169	0.059
1980	0.003	0.141	0.126	0.035
1981	0.007	0.243	0.194	0.048
1982	0.012	0.232	0.193	0.040

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.729
.	.	.	5.361
.	.	.	4.925
.	.	.	5.214
.	.	.	5.885
.	.	.	5.422
.	.	.	5.319
.	.	.	6.531
.	.	.	6.170
.	.	.	6.030
.	.	.	6.283
.	.	.	5.862
.	.	.	6.122
.	.	.	6.061
.	.	.	3.719
0.117	.	.	2.870
0.070	.	.	2.431
0.134	.	.	4.457
0.272	.	.	8.016
0.210	0.126	0.020	6.679
0.216	0.108	0.010	6.287
0.224	0.100	0.016	6.634
0.182	0.105	0.016	5.739
0.230	0.117	0.018	6.829
0.217	0.116	0.021	6.499
0.215	0.106	0.015	6.426
0.202	0.093	0.012	6.319
0.183	0.095	0.008	5.728
0.155	0.077	0.014	5.428
0.149	0.076	0.013	5.113
0.113	0.061	0.007	4.447
0.082	0.046	0.007	3.454
0.052	0.021	0.005	2.570
0.031	0.009	0.002	1.949
0.023	0.009	0.002	2.027
0.012	0.005	0.000	1.609
0.017	0.012	0.001	2.614
0.017	0.011	0.001	2.525

Basic Table 22.B. Urban Sichuan Province (21): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.064	•	•	•
1941	0.045	•	•	•
1942	0.039	•	•	•
1943	0.048	•	•	•
1944	0.048	•	•	•
1945	0.044	0.203	•	•
1946	0.051	0.223	•	•
1947	0.052	0.175	•	•
1948	0.038	0.221	•	•
1949	0.067	0.215	•	•
1950	0.081	0.225	0.278	•
1951	0.077	0.243	0.233	•
1952	0.115	0.257	0.280	•
1953	0.081	0.240	0.309	•
1954	0.077	0.276	0.257	•
1955	0.081	0.283	0.301	0.214
1956	0.048	0.259	0.299	0.268
1957	0.062	0.346	0.328	0.265
1958	0.085	0.249	0.281	0.231
1959	0.045	0.194	0.195	0.135
1960	0.016	0.141	0.178	0.139
1961	0.019	0.138	0.133	0.106
1962	0.019	0.199	0.222	0.171
1963	0.026	0.319	0.386	0.329
1964	0.018	0.244	0.235	0.207
1965	0.014	0.206	0.253	0.144
1966	0.009	0.168	0.188	0.138
1967	0.002	0.139	0.250	0.108
1968	0.010	0.225	0.339	0.153
1969	0.019	0.249	0.253	0.149
1970	0.021	0.213	0.232	0.124
1971	0.014	0.176	0.207	0.080
1972	0.008	0.127	0.173	0.099
1973	0.005	0.120	0.170	0.094
1974	0.013	0.110	0.174	0.075
1975	0.007	0.112	0.153	0.067
1976	0.004	0.072	0.163	0.036
1977	0.002	0.040	0.111	0.015
1978	•	0.014	0.124	0.026
1979	•	0.018	0.112	0.029
1980	•	0.016	0.128	0.021
1981	0.001	0.067	0.215	0.015
1982	0.003	0.116	0.190	0.008

rates, 1940-82

35-39	40-44	45-49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.710
.	.	.	4.669
.	.	.	4.350
.	.	.	4.826
.	.	.	5.315
.	.	.	5.058
.	.	.	4.745
.	.	.	5.889
.	.	.	5.757
.	.	.	5.545
.	.	.	5.687
.	.	.	5.477
.	.	.	6.409
.	.	.	5.394
.	.	.	3.779
0.135	.	.	3.276
0.045	.	.	2.438
0.081	.	.	3.664
0.205	.	.	6.887
0.130	0.093	0.013	4.698
0.097	0.098	.	4.063
0.124	0.038	0.005	3.349
0.055	0.039	0.015	3.039
0.102	0.046	0.015	4.448
0.099	0.029	0.004	4.006
0.071	0.026	0.008	3.472
0.046	0.030	0.003	2.782
0.042	0.021	.	2.353
0.019	0.015	0.003	2.132
0.024	0.007	0.003	2.031
0.019	0.005	.	1.813
0.015	0.010	0.003	1.507
0.005	.	.	0.868
0.009	0.002	.	0.877
0.006	.	.	0.823
.	.	.	0.828
.	.	.	1.495
.	.	.	1.586

Basic Table 22.C. Rural Sichuan Province (21): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.064	.	.	.
1941	0.070	.	.	.
1942	0.065	.	.	.
1943	0.060	.	.	.
1944	0.050	.	.	.
1945	0.053	0.247	.	.
1946	0.059	0.279	.	.
1947	0.068	0.252	.	.
1948	0.060	0.254	.	.
1949	0.070	0.323	.	.
1950	0.060	0.285	0.289	.
1951	0.091	0.285	0.280	.
1952	0.118	0.321	0.336	.
1953	0.109	0.313	0.326	.
1954	0.100	0.309	0.296	.
1955	0.086	0.326	0.307	0.270
1956	0.069	0.292	0.284	0.283
1957	0.064	0.291	0.298	0.267
1958	0.072	0.281	0.314	0.285
1959	0.030	0.153	0.190	0.177
1960	0.019	0.111	0.130	0.127
1961	0.012	0.112	0.136	0.120
1962	0.031	0.211	0.254	0.218
1963	0.077	0.389	0.412	0.363
1964	0.068	0.340	0.331	0.292
1965	0.043	0.313	0.340	0.287
1966	0.051	0.336	0.360	0.329
1967	0.028	0.283	0.307	0.292
1968	0.044	0.332	0.360	0.316
1969	0.037	0.294	0.358	0.307
1970	0.035	0.330	0.333	0.315
1971	0.052	0.299	0.359	0.328
1972	0.039	0.277	0.342	0.271
1973	0.038	0.277	0.328	0.265
1974	0.024	0.268	0.309	0.244
1975	0.021	0.259	0.287	0.196
1976	0.022	0.201	0.237	0.137
1977	0.015	0.171	0.197	0.095
1978	0.005	0.149	0.163	0.060
1979	0.002	0.165	0.177	0.063
1980	0.003	0.166	0.126	0.037
1981	0.008	0.283	0.191	0.054
1982	0.013	0.258	0.193	0.045

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.929
.	.	.	5.499
.	.	.	5.041
.	.	.	5.293
.	.	.	6.001
.	.	.	5.497
.	.	.	5.439
.	.	.	6.667
.	.	.	6.257
.	.	.	6.132
.	.	.	6.409
.	.	.	5.941
.	.	.	6.063
.	.	.	6.194
.	.	.	3.708
0.113	.	.	2.792
0.075	.	.	2.430
0.146	.	.	4.606
0.289	.	.	8.226
0.230	0.132	0.021	7.073
0.245	0.109	0.011	6.741
0.249	0.113	0.018	7.277
0.210	0.121	0.016	6.282
0.259	0.135	0.018	7.319
0.245	0.137	0.024	7.010
0.249	0.125	0.017	7.017
0.238	0.108	0.014	6.986
0.217	0.112	0.010	6.340
0.186	0.091	0.017	6.009
0.178	0.092	0.015	5.651
0.133	0.074	0.009	4.896
0.095	0.055	0.008	3.777
0.060	0.026	0.006	2.849
0.034	0.011	0.003	2.128
0.025	0.012	0.002	2.235
0.013	0.006	0.001	1.761
0.019	0.014	0.002	2.849
0.019	0.012	0.001	2.706

Basic Table 23.A. Total Guizhou Province (22): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.059	.	.	.
1941	0.039	.	.	.
1942	0.058	.	.	.
1943	0.067	.	.	.
1944	0.054	.	.	.
1945	0.046	0.197	.	.
1946	0.047	0.261	.	.
1947	0.068	0.223	.	.
1948	0.051	0.274	.	.
1949	0.070	0.289	.	.
1950	0.069	0.251	0.270	.
1951	0.068	0.210	0.248	.
1952	0.073	0.279	0.322	.
1953	0.069	0.279	0.276	.
1954	0.074	0.287	0.325	.
1955	0.066	0.312	0.297	0.270
1956	0.093	0.240	0.342	0.245
1957	0.071	0.273	0.310	0.299
1958	0.061	0.273	0.301	0.279
1959	0.029	0.216	0.247	0.215
1960	0.029	0.160	0.183	0.169
1961	0.018	0.141	0.154	0.142
1962	0.044	0.302	0.297	0.289
1963	0.056	0.310	0.388	0.371
1964	0.049	0.293	0.330	0.269
1965	0.052	0.302	0.353	0.339
1966	0.062	0.293	0.346	0.326
1967	0.041	0.250	0.299	0.265
1968	0.061	0.297	0.414	0.368
1969	0.036	0.275	0.357	0.298
1970	0.045	0.309	0.339	0.323
1971	0.040	0.300	0.335	0.317
1972	0.035	0.226	0.352	0.279
1973	0.036	0.264	0.342	0.337
1974	0.041	0.280	0.362	0.293
1975	0.045	0.257	0.308	0.264
1976	0.034	0.229	0.292	0.220
1977	0.014	0.225	0.270	0.206
1978	0.012	0.182	0.278	0.166
1979	0.005	0.223	0.278	0.163
1980	0.006	0.186	0.264	0.158
1981	0.012	0.263	0.270	0.177
1982	0.028	0.222	0.293	0.168

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.053
.	.	.	5.918
.	.	.	4.937
.	.	.	5.608
.	.	.	6.282
.	.	.	5.610
.	.	.	5.074
.	.	.	6.363
.	.	.	5.716
.	.	.	6.842
.	.	.	6.552
.	.	.	6.214
.	.	.	6.254
.	.	.	6.190
.	.	.	4.726
0.116	.	.	3.667
0.083	.	.	2.988
0.198	.	.	6.172
0.291	.	.	7.843
0.218	0.110	0.014	6.409
0.236	0.105	0.018	7.036
0.232	0.109	0.015	6.921
0.262	0.112	0.015	6.222
0.284	0.168	0.017	8.047
0.222	0.132	0.027	6.733
0.258	0.128	0.005	7.038
0.248	0.096	0.021	6.784
0.226	0.128	0.010	6.285
0.246	0.103	0.017	6.724
0.254	0.128	0.022	6.903
0.245	0.102	0.036	6.283
0.141	0.096	0.012	5.118
0.128	0.031	0.014	4.686
0.081	0.049	0.013	3.909
0.113	0.040	0.014	4.182
0.094	0.033	0.005	3.734
0.111	0.049	0.011	4.461
0.136	0.044	0.015	4.532

Basic Table 23.B. Urban Guizhou Province (22): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.065	•	•	•
1941	0.035	•	•	•
1942	0.058	•	•	•
1943	0.049	•	•	•
1944	0.061	•	•	•
1945	0.071	0.208	•	•
1946	0.050	0.129	•	•
1947	0.072	0.292	•	•
1948	0.043	0.171	•	•
1949	0.053	0.280	•	•
1950	0.090	0.225	0.169	•
1951	0.029	0.163	0.164	•
1952	0.046	0.228	0.222	•
1953	0.097	0.141	0.318	•
1954	0.020	0.244	0.255	•
1955	0.063	0.209	0.236	0.182
1956	0.032	0.134	0.238	0.258
1957	0.053	0.221	0.264	0.210
1958	0.044	0.194	0.227	0.196
1959	0.024	0.221	0.244	0.207
1960	•	0.126	0.150	0.118
1961	0.013	0.095	0.163	0.088
1962	0.037	0.203	0.185	0.228
1963	0.024	0.264	0.290	0.206
1964	0.021	0.295	0.241	0.170
1965	0.009	0.168	0.283	0.239
1966	0.028	0.232	0.211	0.240
1967	0.027	0.111	0.203	0.166
1968	•	0.165	0.286	0.203
1969	0.008	0.208	0.307	0.181
1970	0.030	0.156	0.207	0.157
1971	0.020	0.121	0.206	0.158
1972	•	0.063	0.258	0.107
1973	•	0.104	0.223	0.110
1974	0.007	0.106	0.177	0.177
1975	0.023	0.068	0.175	0.026
1976	0.008	0.054	0.149	0.026
1977	•	0.071	0.180	0.086
1978	•	0.046	0.207	0.059
1979	•	0.061	0.162	0.062
1980	0.006	0.084	0.106	0.009
1981	0.005	0.008	0.183	0.074
1982	•	0.070	0.090	0.018

rates, 1940–82

35–39	40–44	45–49	Total
•		•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	6.178
•	•	•	3.550
•	•	•	5.090
•	•	•	4.010
•	•	•	6.702
•	•	•	5.023
•	•	•	3.938
•	•	•	5.468
•	•	•	5.041
•	•	•	5.902
•	•	•	4.714
•	•	•	4.637
•	•	•	4.991
•	•	•	5.204
•	•	•	4.494
0.065	•	•	2.705
0.059	•	•	2.204
0.094	•	•	4.252
0.171	•	•	5.427
0.158	0.080	•	4.822
0.177	0.039	0.024	4.697
0.063	0.035	0.020	4.144
0.060	0.035	0.018	3.101
0.162	0.024	•	4.204
0.085	0.061	0.013	4.311
0.140	0.035	•	3.628
0.077	•	•	2.912
0.055	0.036	•	2.597
0.048	0.032	•	2.590
0.020	0.032	•	2.589
0.021	0.010	0.012	1.671
•	•	•	1.186
•	0.028	•	1.825
•	•	•	1.563
0.012	•	0.011	1.543
•	•	•	1.023
•	•	0.010	1.404
•	•	•	0.895

Basic Table 23.C. Rural Guizhou Province (22): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.058	•	•	•
1941	0.040	•	•	•
1942	0.058	•	•	•
1943	0.072	•	•	•
1944	0.052	•	•	•
1945	0.041	0.194	•	•
1946	0.046	0.298	•	•
1947	0.067	0.204	•	•
1948	0.052	0.299	•	•
1949	0.074	0.291	•	•
1950	0.065	0.257	0.296	•
1951	0.076	0.219	0.271	•
1952	0.079	0.289	0.350	•
1953	0.064	0.308	0.266	•
1954	0.083	0.296	0.341	•
1955	0.066	0.333	0.310	0.293
1956	0.103	0.262	0.362	0.241
1957	0.073	0.283	0.319	0.324
1958	0.064	0.287	0.317	0.299
1959	0.029	0.215	0.248	0.217
1960	0.033	0.166	0.191	0.180
1961	0.019	0.148	0.152	0.153
1962	0.045	0.318	0.320	0.301
1963	0.061	0.318	0.405	0.405
1964	0.053	0.293	0.345	0.289
1965	0.059	0.320	0.364	0.360
1966	0.067	0.301	0.368	0.344
1967	0.043	0.269	0.315	0.285
1968	0.070	0.315	0.434	0.397
1969	0.040	0.284	0.364	0.318
1970	0.048	0.333	0.356	0.350
1971	0.043	0.327	0.351	0.343
1972	0.041	0.251	0.365	0.306
1973	0.042	0.288	0.358	0.373
1974	0.046	0.306	0.389	0.310
1975	0.049	0.286	0.328	0.296
1976	0.038	0.257	0.314	0.245
1977	0.016	0.250	0.283	0.222
1978	0.015	0.204	0.288	0.181
1979	0.005	0.250	0.296	0.177
1980	0.006	0.204	0.288	0.181
1981	0.013	0.307	0.284	0.192
1982	0.032	0.248	0.326	0.190

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.816
.	.	.	6.413
.	.	.	4.905
.	.	.	5.944
.	.	.	6.195
.	.	.	5.734
.	.	.	5.309
.	.	.	6.545
.	.	.	5.851
.	.	.	7.026
.	.	.	6.911
.	.	.	6.520
.	.	.	6.496
.	.	.	6.376
.	.	.	4.769
0.129	.	.	3.842
0.090	.	.	3.130
0.227	.	.	6.518
0.320	.	.	8.272
0.231	0.117	0.015	6.717
0.249	0.123	0.018	7.466
0.265	0.131	0.014	7.447
0.301	0.133	0.014	6.798
0.310	0.203	0.021	8.747
0.250	0.148	0.030	7.175
0.283	0.147	0.007	7.616
0.283	0.114	0.027	7.442
0.259	0.146	0.013	6.906
0.280	0.118	0.021	7.398
0.293	0.148	0.027	7.601
0.280	0.121	0.041	7.007
0.163	0.115	0.015	5.736
0.148	0.091	0.016	5.138
0.094	0.057	0.016	4.274
0.128	0.047	0.015	4.592
0.107	0.038	0.006	4.150
0.125	0.057	0.012	4.948
0.155	0.051	0.018	5.100

Basic Table 24.A. Total Yunnan Province (23): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.069	•	•	•
1941	0.046	•	•	•
1942	0.088	•	•	•
1943	0.064	•	•	•
1944	0.054	•	•	•
1945	0.042	0.258	•	•
1946	0.077	0.273	•	•
1947	0.093	0.267	•	•
1948	0.084	0.238	•	•
1949	0.078	0.313	•	•
1950	0.108	0.228	0.272	•
1951	0.082	0.272	0.243	•
1952	0.089	0.311	0.288	•
1953	0.084	0.271	0.303	•
1954	0.104	0.290	0.345	•
1955	0.103	0.316	0.322	0.242
1956	0.068	0.292	0.273	0.267
1957	0.086	0.294	0.306	0.244
1958	0.071	0.255	0.288	0.289
1959	0.053	0.175	0.213	0.212
1960	0.047	0.207	0.216	0.186
1961	0.043	0.206	0.182	0.167
1962	0.087	0.321	0.361	0.294
1963	0.074	0.330	0.367	0.319
1964	0.086	0.325	0.352	0.274
1965	0.064	0.304	0.333	0.301
1966	0.066	0.284	0.336	0.279
1967	0.045	0.263	0.282	0.239
1968	0.056	0.313	0.315	0.310
1969	0.046	0.315	0.326	0.244
1970	0.041	0.279	0.312	0.274
1971	0.047	0.295	0.293	0.285
1972	0.042	0.291	0.307	0.220
1973	0.042	0.244	0.295	0.238
1974	0.035	0.268	0.315	0.207
1975	0.052	0.244	0.301	0.230
1976	0.035	0.248	0.312	0.202
1977	0.019	0.261	0.296	0.197
1978	0.012	0.209	0.271	0.207
1979	0.014	0.229	0.250	0.158
1980	0.013	0.176	0.218	0.110
1981	0.019	0.231	0.225	0.140
1982	0.026	0.236	0.235	0.123

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.706
.	.	.	5.699
.	.	.	5.590
.	.	.	5.437
.	.	.	6.626
.	.	.	5.610
.	.	.	5.429
.	.	.	6.223
.	.	.	5.990
.	.	.	6.780
.	.	.	6.497
.	.	.	5.906
.	.	.	6.167
.	.	.	6.087
.	.	.	4.363
0.159	.	.	4.505
0.108	.	.	3.797
0.198	.	.	6.926
0.298	.	.	7.787
0.187	0.107	0.022	6.762
0.219	0.104	0.017	6.712
0.219	0.088	0.017	6.437
0.193	0.069	0.007	5.494
0.204	0.133	0.011	6.708
0.231	0.111	0.021	6.472
0.179	0.098	0.014	5.984
0.182	0.089	0.002	5.964
0.173	0.079	0.004	5.584
0.181	0.089	0.016	5.535
0.155	0.077	0.012	5.338
0.157	0.078	0.005	5.332
0.168	0.074	0.006	5.227
0.164	0.053	0.008	4.989
0.132	0.073	0.010	4.571
0.082	0.059	0.006	3.993
0.089	0.037	0.005	3.243
0.083	0.044	0.004	3.727
0.094	0.030	0.013	3.787

Basic Table 24.B. Urban Yunnan Province (23): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.080	•	•	•
1941	0.014	•	•	•
1942	0.110	•	•	•
1943	0.042	•	•	•
1944	0.066	•	•	•
1945	0.017	0.223	•	•
1946	0.082	0.317	•	•
1947	0.097	0.304	•	•
1948	0.084	0.168	•	•
1949	0.084	0.265	•	•
1950	0.101	0.222	0.271	•
1951	0.139	0.304	0.144	•
1952	0.110	0.266	0.244	•
1953	0.128	0.307	0.262	•
1954	0.128	0.245	0.322	•
1955	0.133	0.336	0.264	0.191
1956	0.083	0.253	0.263	0.159
1957	0.129	0.343	0.275	0.244
1958	0.048	0.323	0.315	0.273
1959	0.076	0.211	0.217	0.180
1960	0.039	0.233	0.202	0.136
1961	0.040	0.213	0.209	0.132
1962	0.145	0.257	0.264	0.170
1963	0.095	0.372	0.424	0.269
1964	0.138	0.247	0.271	0.231
1965	0.040	0.322	0.291	0.155
1966	0.050	0.231	0.185	0.158
1967	0.011	0.134	0.148	0.061
1968	•	0.345	0.315	0.182
1969	0.069	0.226	0.266	0.136
1970	0.015	0.212	0.234	0.125
1971	0.007	0.225	0.221	0.120
1972	0.021	0.126	0.145	0.168
1973	0.014	0.148	0.333	0.095
1974	0.014	0.155	0.126	0.067
1975	0.008	0.141	0.133	0.049
1976	•	0.176	0.213	0.100
1977	0.007	0.152	0.211	0.078
1978	•	0.137	0.197	0.060
1979	•	0.071	0.121	0.038
1980	•	0.070	0.141	•
1981	•	0.107	0.081	•
1982	0.010	0.145	0.125	0.021

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.826
.	.	.	5.652
.	.	.	5.610
.	.	.	4.988
.	.	.	7.434
.	.	.	5.319
.	.	.	5.528
.	.	.	5.471
.	.	.	6.181
.	.	.	6.562
.	.	.	5.797
.	.	.	5.232
.	.	.	6.346
.	.	.	6.148
.	.	.	4.143
0.127	.	.	4.061
0.130	.	.	3.728
0.183	.	.	5.387
0.241	.	.	7.845
0.151	0.067	0.017	5.616
0.136	0.080	0.031	5.275
0.132	0.029	.	3.923
0.040	0.012	.	2.032
0.061	0.052	.	4.777
0.077	0.019	.	3.963
0.034	0.026	0.016	3.309
0.070	0.041	.	3.419
0.055	.	.	2.576
0.034	0.015	.	3.195
0.030	.	.	1.959
0.017	0.013	.	1.801
0.019	0.006	.	2.570
0.030	.	.	2.390
0.010	.	.	2.014
0.019	0.015	.	1.319
.	.	.	1.055
.	0.009	.	0.987
.	.	.	1.501

Basic Table 24.C. Rural Yunnan Province (23): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.068	.	.	.
1941	0.051	.	.	.
1942	0.084	.	.	.
1943	0.068	.	.	.
1944	0.051	.	.	.
1945	0.048	0.263	.	.
1946	0.076	0.266	.	.
1947	0.092	0.260	.	.
1948	0.084	0.252	.	.
1949	0.077	0.324	.	.
1950	0.109	0.230	0.273	.
1951	0.067	0.265	0.259	.
1952	0.084	0.320	0.296	.
1953	0.074	0.264	0.312	.
1954	0.099	0.300	0.350	.
1955	0.098	0.312	0.334	0.249
1956	0.065	0.301	0.276	0.285
1957	0.079	0.231	0.312	0.244
1958	0.074	0.239	0.282	0.292
1959	0.050	0.168	0.213	0.219
1960	0.049	0.202	0.220	0.197
1961	0.043	0.204	0.175	0.175
1962	0.081	0.330	0.386	0.318
1963	0.072	0.324	0.354	0.329
1964	0.081	0.336	0.368	0.283
1965	0.066	0.302	0.340	0.336
1966	0.067	0.290	0.361	0.309
1967	0.048	0.277	0.302	0.284
1968	0.062	0.310	0.315	0.340
1969	0.043	0.323	0.335	0.266
1970	0.044	0.284	0.323	0.302
1971	0.052	0.301	0.302	0.313
1972	0.044	0.307	0.325	0.228
1973	0.046	0.254	0.292	0.259
1974	0.037	0.280	0.332	0.226
1975	0.057	0.257	0.314	0.255
1976	0.039	0.257	0.320	0.214
1977	0.021	0.274	0.304	0.210
1978	0.014	0.218	0.278	0.222
1979	0.016	0.249	0.264	0.168
1980	0.015	0.189	0.227	0.119
1981	0.021	0.246	0.243	0.152
1982	0.028	0.249	0.249	0.133

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.684
.	.	.	5.707
.	.	.	5.586
.	.	.	5.522
.	.	.	6.467
.	.	.	5.669
.	.	.	5.409
.	.	.	6.377
.	.	.	5.952
.	.	.	6.824
.	.	.	6.635
.	.	.	6.037
.	.	.	6.133
.	.	.	6.076
.	.	.	4.404
0.163	.	.	4.586
0.104	.	.	3.809
0.201	.	.	7.194
0.310	.	.	7.777
0.195	0.113	0.022	6.996
0.237	0.107	0.015	7.017
0.237	0.097	0.020	6.907
0.223	0.080	0.008	6.119
0.232	0.149	0.013	7.102
0.265	0.131	0.025	6.939
0.214	0.114	0.014	6.469
0.210	0.099	0.002	6.393
0.204	0.095	0.005	6.038
0.216	0.104	0.020	5.947
0.180	0.094	0.014	5.823
0.183	0.093	0.006	5.823
0.193	0.091	0.007	5.614
0.184	0.066	0.009	5.344
0.150	0.090	0.012	4.920
0.091	0.068	0.008	4.321
0.101	0.044	0.006	3.508
0.094	0.050	0.005	4.048
0.104	0.035	0.016	4.063

Basic Table 25.A. Total Shaanxi Province (25): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.095	.	.	.
1941	0.097	.	.	.
1942	0.119	.	.	.
1943	0.106	.	.	.
1944	0.128	.	.	.
1945	0.099	0.240	.	.
1946	0.097	0.293	.	.
1947	0.131	0.280	.	.
1948	0.086	0.259	.	.
1949	0.132	0.260	.	.
1950	0.147	0.247	0.227	.
1951	0.141	0.270	0.264	.
1952	0.136	0.291	0.234	.
1953	0.120	0.277	0.263	.
1954	0.118	0.296	0.288	.
1955	0.122	0.308	0.260	0.254
1956	0.101	0.286	0.275	0.214
1957	0.130	0.317	0.319	0.274
1958	0.139	0.305	0.228	0.222
1959	0.088	0.233	0.256	0.164
1960	0.083	0.242	0.241	0.205
1961	0.064	0.213	0.200	0.161
1962	0.105	0.325	0.348	0.259
1963	0.135	0.372	0.329	0.294
1964	0.101	0.302	0.303	0.216
1965	0.065	0.276	0.268	0.241
1966	0.084	0.316	0.300	0.248
1967	0.056	0.280	0.275	0.207
1968	0.069	0.304	0.356	0.255
1969	0.057	0.303	0.281	0.205
1970	0.057	0.292	0.276	0.251
1971	0.054	0.306	0.266	0.205
1972	0.044	0.265	0.310	0.217
1973	0.046	0.251	0.240	0.186
1974	0.043	0.260	0.246	0.153
1975	0.025	0.194	0.204	0.130
1976	0.019	0.231	0.193	0.111
1977	0.008	0.176	0.187	0.101
1978	0.008	0.178	0.210	0.083
1979	0.008	0.188	0.240	0.092
1980	0.004	0.169	0.182	0.061
1981	0.005	0.188	0.203	0.060
1982	0.016	0.237	0.186	0.045

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.582
.	.	.	5.682
.	.	.	5.322
.	.	.	5.082
.	.	.	5.565
.	.	.	5.122
.	.	.	5.498
.	.	.	6.040
.	.	.	5.744
.	.	.	6.220
.	.	.	5.994
.	.	.	5.657
.	.	.	6.743
.	.	.	5.888
.	.	.	4.601
0.169	.	.	5.101
0.137	.	.	4.208
0.153	.	.	6.431
0.237	.	.	7.359
0.198	0.105	0.006	6.152
0.151	0.056	0.010	5.332
0.157	0.089	0.012	6.037
0.158	0.063	0.007	5.228
0.170	0.100	0.011	6.331
0.165	0.068	0.013	5.461
0.137	0.082	0.008	5.513
0.126	0.075	0.008	5.197
0.136	0.077	0.006	5.274
0.106	0.046	0.012	4.428
0.090	0.042	0.004	4.192
0.077	0.026	0.004	3.298
0.069	0.022	0.002	3.233
0.043	0.010	0.005	2.654
0.041	0.026	0.002	2.742
0.037	0.019	.	2.925
0.015	0.007	0.002	2.198
0.020	0.006	0.003	2.424
0.019	0.003	0.003	2.544

Basic Table 25.B. Urban Shaanxi Province (25): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.063	.	.	.
1941	0.056	.	.	.
1942	0.066	.	.	.
1943	0.041	.	.	.
1944	0.091	.	.	.
1945	0.046	0.302	.	.
1946	0.104	0.226	.	.
1947	0.092	0.274	.	.
1948	0.054	0.217	.	.
1949	0.103	0.190	.	.
1950	0.058	0.184	0.176	.
1951	0.091	0.200	0.260	.
1952	0.077	0.259	0.252	.
1953	0.072	0.217	0.227	.
1954	0.055	0.286	0.326	.
1955	0.046	0.199	0.266	0.201
1956	0.043	0.272	0.244	0.260
1957	0.095	0.341	0.317	0.252
1958	0.068	0.252	0.209	0.165
1959	0.055	0.213	0.264	0.127
1960	0.043	0.186	0.225	0.165
1961	0.037	0.159	0.181	0.096
1962	0.019	0.292	0.336	0.217
1963	0.061	0.284	0.396	0.271
1964	0.039	0.182	0.243	0.183
1965	0.010	0.239	0.258	0.116
1966	.	0.128	0.234	0.169
1967	.	0.191	0.185	0.127
1968	.	0.153	0.352	0.196
1969	.	0.184	0.238	0.174
1970	.	0.146	0.231	0.175
1971	0.021	0.115	0.248	0.144
1972	0.013	0.145	0.191	0.107
1973	0.006	0.081	0.224	0.088
1974	.	0.121	0.155	0.032
1975	.	0.088	0.204	0.077
1976	.	0.097	0.183	0.083
1977	.	0.141	0.179	0.105
1978	.	0.083	0.242	0.061
1979	.	0.027	0.181	0.107
1980	.	0.060	0.175	0.068
1981	.	0.037	0.172	0.058
1982	.	0.061	0.171	.

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.295
.	.	.	5.969
.	.	.	4.503
.	.	.	5.469
.	.	.	5.244
.	.	.	3.345
.	.	.	5.257
.	.	.	6.081
.	.	.	5.049
.	.	.	6.667
.	.	.	4.586
.	.	.	5.871
.	.	.	6.587
.	.	.	5.112
.	.	.	4.409
0.151	.	.	4.121
0.113	.	.	3.393
0.154	.	.	5.687
0.186	.	.	6.735
0.118	0.084	.	4.244
0.110	0.025	.	3.787
0.026	0.045	0.017	3.101
0.067	0.044	0.015	3.138
0.101	0.052	.	4.262
0.088	0.018	0.028	3.648
0.071	0.046	.	3.340
0.060	0.026	.	3.069
0.077	0.025	.	2.794
0.041	0.023	.	2.317
0.020	.	.	1.638
0.015	0.006	.	1.951
0.032	0.006	.	1.999
0.012	.	.	2.186
0.027	0.010	.	2.115
0.008	.	.	1.615
.	.	.	1.515
0.009	.	.	1.381
0.020	.	.	1.262

Basic Table 25.C. Rural Shaanxi Province (25): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.101	.	.	.
1941	0.106	.	.	.
1942	0.131	.	.	.
1943	0.121	.	.	.
1944	0.138	.	.	.
1945	0.114	0.227	.	.
1946	0.095	0.308	.	.
1947	0.142	0.281	.	.
1948	0.095	0.268	.	.
1949	0.141	0.278	.	.
1950	0.179	0.263	0.237	.
1951	0.161	0.289	0.264	.
1952	0.161	0.301	0.290	.
1953	0.141	0.294	0.271	.
1954	0.145	0.300	0.276	.
1955	0.151	0.347	0.258	0.264
1956	0.122	0.291	0.284	0.204
1957	0.140	0.308	0.319	0.279
1958	0.158	0.328	0.233	0.235
1959	0.095	0.242	0.254	0.173
1960	0.091	0.264	0.247	0.215
1961	0.068	0.232	0.206	0.179
1962	0.119	0.336	0.353	0.270
1963	0.146	0.395	0.299	0.301
1964	0.109	0.328	0.328	0.226
1965	0.072	0.283	0.272	0.287
1966	0.095	0.349	0.324	0.278
1967	0.063	0.294	0.303	0.240
1968	0.078	0.326	0.357	0.281
1969	0.065	0.320	0.290	0.219
1970	0.065	0.311	0.285	0.280
1971	0.058	0.330	0.269	0.227
1972	0.048	0.282	0.330	0.250
1973	0.052	0.273	0.243	0.212
1974	0.049	0.279	0.259	0.180
1975	0.029	0.208	0.204	0.141
1976	0.022	0.249	0.194	0.116
1977	0.010	0.181	0.188	0.100
1978	0.009	0.192	0.206	0.087
1979	0.010	0.211	0.248	0.090
1980	0.005	0.185	0.183	0.060
1981	0.006	0.212	0.207	0.061
1982	0.020	0.271	0.188	0.051

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.428
.	.	.	5.619
.	.	.	5.506
.	.	.	4.993
.	.	.	5.642
.	.	.	5.574
.	.	.	5.561
.	.	.	6.029
.	.	.	5.938
.	.	.	6.093
.	.	.	6.396
.	.	.	5.597
.	.	.	6.787
.	.	.	6.102
.	.	.	4.653
0.173	.	.	5.361
0.142	.	.	4.419
0.152	.	.	6.619
0.249	.	.	7.513
0.219	0.109	0.007	6.635
0.162	0.062	0.012	5.745
0.193	0.099	0.012	6.745
0.184	0.067	0.005	5.782
0.190	0.112	0.014	6.790
0.189	0.081	0.010	5.871
0.161	0.092	0.010	6.014
0.151	0.088	0.010	5.667
0.161	0.091	0.007	5.840
0.134	0.052	0.014	4.895
0.120	0.055	0.005	4.732
0.101	0.033	0.005	3.598
0.082	0.028	0.002	3.470
0.053	0.014	0.007	2.763
0.044	0.033	0.002	2.870
0.043	0.027	.	3.149
0.018	0.010	0.002	2.314
0.022	0.008	0.005	2.602
0.018	0.004	0.005	2.785

Basic Table 26.A. Total Gansu Province (26): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.129	•	•	•
1941	0.147	•	•	•
1942	0.122	•	•	•
1943	0.151	•	•	•
1944	0.131	•	•	•
1945	0.110	0.287	•	•
1946	0.103	0.336	•	•
1947	0.104	0.301	•	•
1948	0.103	0.242	•	•
1949	0.162	0.315	•	•
1950	0.153	0.287	0.298	•
1951	0.152	0.249	0.218	•
1952	0.176	0.322	0.316	•
1953	0.159	0.294	0.258	•
1954	0.127	0.300	0.279	•
1955	0.125	0.343	0.307	0.228
1956	0.137	0.291	0.302	0.243
1957	0.130	0.266	0.315	0.221
1958	0.114	0.256	0.267	0.250
1959	0.056	0.183	0.169	0.147
1960	0.068	0.205	0.180	0.138
1961	0.055	0.196	0.166	0.149
1962	0.092	0.378	0.332	0.329
1963	0.142	0.356	0.364	0.279
1964	0.139	0.323	0.357	0.311
1965	0.100	0.325	0.318	0.253
1966	0.124	0.339	0.359	0.307
1967	0.097	0.316	0.282	0.266
1968	0.118	0.343	0.347	0.313
1969	0.106	0.326	0.271	0.267
1970	0.094	0.319	0.332	0.273
1971	0.104	0.329	0.303	0.247
1972	0.089	0.315	0.289	0.267
1973	0.083	0.283	0.303	0.218
1974	0.089	0.280	0.248	0.197
1975	0.067	0.225	0.180	0.101
1976	0.042	0.214	0.181	0.098
1977	0.026	0.198	0.166	0.077
1978	0.031	0.240	0.196	0.081
1979	0.026	0.249	0.254	0.094
1980	0.024	0.236	0.186	0.038
1981	0.043	0.236	0.190	0.068
1982	0.051	0.183	0.206	0.044

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.030
.	.	.	5.843
.	.	.	5.470
.	.	.	5.502
.	.	.	6.696
.	.	.	6.292
.	.	.	5.140
.	.	.	6.615
.	.	.	6.073
.	.	.	6.011
.	.	.	6.682
.	.	.	6.078
.	.	.	5.754
.	.	.	5.714
.	.	.	3.625
0.110	.	.	3.710
0.089	.	.	3.454
0.233	.	.	7.227
0.179	.	.	6.991
0.223	0.089	0.017	7.293
0.185	0.136	0.020	6.681
0.214	0.122	0.031	7.478
0.176	0.099	0.016	6.254
0.200	0.131	0.037	7.444
0.175	0.088	0.015	6.233
0.229	0.083	0.022	6.761
0.189	0.088	0.014	6.371
0.208	0.093	0.008	6.345
0.167	0.094	0.016	5.820
0.109	0.072	0.012	5.034
0.066	0.068	0.008	3.577
0.046	0.027	0.004	3.064
0.053	0.026	0.010	2.779
0.041	0.013	0.012	3.063
0.056	0.021	0.003	3.509
0.013	0.010	0.010	2.585
0.020	0.006	0.007	2.855
0.019	0.031	0.004	2.690

Basic Table 26.B. Urban Gansu Province (26): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.118	•	•	•
1941	0.128	•	•	•
1942	0.077	•	•	•
1943	0.072	•	•	•
1944	0.089	•	•	•
1945	0.179	0.213	•	•
1946	0.109	0.307	•	•
1947	0.048	0.204	•	•
1948	0.088	0.239	•	•
1949	0.178	0.444	•	•
1950	0.146	0.258	0.237	•
1951	0.074	0.200	0.230	•
1952	0.114	0.288	0.485	•
1953	0.117	0.353	0.192	•
1954	0.058	0.260	0.289	•
1955	0.060	0.305	0.338	0.189
1956	0.098	0.295	0.382	0.281
1957	0.088	0.204	0.352	0.128
1958	0.116	0.276	0.383	0.335
1959	0.084	0.192	0.205	0.133
1960	0.045	0.257	0.225	0.199
1961	0.037	0.212	0.123	0.200
1962	0.031	0.361	0.375	0.304
1963	0.074	0.408	0.382	0.295
1964	0.069	0.278	0.346	0.301
1965	0.022	0.296	0.300	0.172
1966	0.023	0.223	0.318	0.197
1967	0.023	0.167	0.217	0.170
1968	0.032	0.245	0.299	0.297
1969	0.018	0.195	0.194	0.096
1970	0.009	0.234	0.215	0.163
1971	•	0.150	0.242	0.147
1972	•	0.228	0.262	0.168
1973	•	0.140	0.223	0.116
1974	0.008	0.073	0.218	0.059
1975	•	0.053	0.156	0.054
1976	•	0.093	0.161	0.037
1977	•	0.036	0.217	0.084
1978	•	0.079	0.215	0.053
1979	•	0.075	0.238	0.034
1980	•	0.069	0.131	0.022
1981	0.005	0.075	0.224	0.012
1982	•	0.071	0.186	•

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.148
.	.	.	5.718
.	.	.	3.367
.	.	.	6.303
.	.	.	7.554
.	.	.	4.773
.	.	.	5.506
.	.	.	6.511
.	.	.	6.648
.	.	.	5.661
.	.	.	7.078
.	.	.	6.381
.	.	.	5.015
.	.	.	7.088
.	.	.	4.280
0.118	.	.	4.285
0.077	.	.	3.391
0.256	.	.	7.102
0.168	.	.	7.001
0.222	0.043	.	6.294
0.179	0.024	0.025	5.093
0.132	0.026	0.043	5.055
0.080	0.051	.	3.541
0.088	0.072	.	5.167
0.055	0.044	0.022	3.121
0.093	0.020	0.024	3.785
0.086	0.018	.	3.211
0.068	.	.	3.632
0.032	0.074	.	2.925
0.038	.	.	1.982
0.034	.	.	1.482
.	0.012	0.018	1.608
0.008	0.011	.	1.777
.	.	0.015	1.811
0.017	.	.	1.823
.	.	.	1.112
0.009	.	.	1.626
.	.	.	1.282

Basic Table 26.C. Rural Gansu Province (26): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.130	•	•	•
1941	0.150	•	•	•
1942	0.130	•	•	•
1943	0.167	•	•	•
1944	0.141	•	•	•
1945	0.093	0.300	•	•
1946	0.102	0.341	•	•
1947	0.119	0.318	•	•
1948	0.106	0.243	•	•
1949	0.158	0.286	•	•
1950	0.155	0.294	0.309	•
1951	0.170	0.261	0.216	•
1952	0.191	0.331	0.287	•
1953	0.169	0.279	0.271	•
1954	0.146	0.310	0.276	•
1955	0.144	0.351	0.299	0.235
1956	0.149	0.290	0.281	0.237
1957	0.144	0.280	0.305	0.237
1958	0.113	0.251	0.238	0.233
1959	0.048	0.180	0.161	0.150
1960	0.074	0.190	0.170	0.123
1961	0.060	0.191	0.176	0.136
1962	0.105	0.384	0.322	0.335
1963	0.156	0.341	0.359	0.275
1964	0.152	0.335	0.360	0.313
1965	0.115	0.332	0.324	0.271
1966	0.143	0.367	0.372	0.332
1967	0.110	0.348	0.302	0.288
1968	0.133	0.364	0.361	0.317
1969	0.123	0.351	0.293	0.313
1970	0.111	0.336	0.362	0.306
1971	0.126	0.362	0.319	0.278
1972	0.108	0.330	0.295	0.297
1973	0.101	0.309	0.319	0.248
1974	0.108	0.321	0.254	0.235
1975	0.084	0.260	0.184	0.113
1976	0.054	0.240	0.185	0.113
1977	0.033	0.233	0.157	0.076
1978	0.040	0.275	0.193	0.087
1979	0.032	0.288	0.257	0.106
1980	0.030	0.277	0.197	0.041
1981	0.051	0.280	0.183	0.079
1982	0.061	0.215	0.211	0.052

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.004
.	.	.	5.870
.	.	.	5.947
.	.	.	5.321
.	.	.	6.504
.	.	.	6.629
.	.	.	5.059
.	.	.	6.639
.	.	.	5.938
.	.	.	6.094
.	.	.	6.596
.	.	.	6.004
.	.	.	5.939
.	.	.	5.374
.	.	.	3.462
0.109	.	.	3.568
0.091	.	.	3.470
0.228	.	.	7.257
0.181	.	.	6.989
0.223	0.098	0.021	7.519
0.186	0.157	0.018	7.015
0.223	0.137	0.028	8.009
0.203	0.108	0.019	6.887
0.227	0.143	0.045	7.951
0.202	0.097	0.013	6.965
0.259	0.098	0.022	7.470
0.212	0.107	0.017	7.097
0.241	0.119	0.009	6.997
0.201	0.099	0.019	6.478
0.128	0.089	0.015	5.747
0.076	0.083	0.010	4.048
0.060	0.031	.	3.412
0.067	0.029	0.013	3.041
0.053	0.016	0.011	3.372
0.067	0.026	0.003	3.897
0.016	0.013	0.012	2.932
0.023	0.007	0.008	3.161
0.023	0.040	0.005	3.036

Basic Table 27. Total Qinghai Province (27): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.026	•	•	•
1941	0.056	•	•	•
1942	0.072	•	•	•
1943	0.085	•	•	•
1944	0.064	•	•	•
1945	0.051	0.102	•	•
1946	0.058	0.247	•	•
1947	0.028	0.247	•	•
1948	0.009	0.127	•	•
1949	0.068	0.215	•	•
1950	0.057	0.193	0.217	•
1951	0.063	0.155	0.146	•
1952	0.085	0.170	0.144	•
1953	0.073	0.142	0.212	•
1954	0.056	0.220	0.268	•
1955	0.084	0.245	0.233	0.281
1956	0.070	0.158	0.174	0.168
1957	0.041	0.231	0.207	0.123
1958	0.053	0.169	0.133	0.212
1959	0.019	0.119	0.195	0.150
1960	0.018	0.049	0.082	0.112
1961	0.012	0.077	0.134	0.068
1962	0.068	0.234	0.231	0.207
1963	0.065	0.207	0.220	0.212
1964	0.081	0.276	0.349	0.330
1965	0.081	0.202	0.265	0.204
1966	0.098	0.186	0.323	0.237
1967	0.087	0.242	0.275	0.192
1968	0.138	0.292	0.287	0.287
1969	0.107	0.270	0.270	0.210
1970	0.086	0.331	0.257	0.245
1971	0.061	0.216	0.252	0.267
1972	0.063	0.325	0.335	0.227
1973	0.069	0.238	0.266	0.234
1974	0.101	0.246	0.337	0.263
1975	0.050	0.247	0.270	0.141
1976	0.114	0.304	0.222	0.150
1977	0.095	0.219	0.250	0.186
1978	0.084	0.249	0.238	0.143
1979	0.043	0.271	0.290	0.155
1980	0.014	0.207	0.210	0.095
1981	0.050	0.324	0.237	0.203
1982	0.046	0.150	0.230	0.224

1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.826
•	•	•	5.212
•	•	•	4.122
•	•	•	2.185
•	•	•	3.856
•	•	•	4.474
•	•	•	3.330
•	•	•	3.928
•	•	•	3.969
•	•	•	4.849
•	•	•	5.496
•	•	•	3.798
•	•	•	3.966
•	•	•	3.916
•	•	•	2.830
0.051	•	•	1.736
0.056	•	•	1.904
0.175	•	•	4.735
0.127	•	•	4.465
0.150	0.085	0.051	6.617
0.193	0.153	0.044	5.716
0.223	0.079	0.042	5.937
0.132	0.082	0.021	5.161
0.212	0.149	0.051	7.073
0.220	0.086	•	5.813
0.196	0.091	0.026	6.161
0.190	0.048	0.022	5.276
0.200	0.123	0.021	6.464
0.184	0.142	0.011	5.708
0.196	0.076	0.021	6.204
0.133	0.139	0.020	4.999
0.147	0.055	0.010	5.009
0.186	0.046	0.019	5.006
0.107	0.118	0.018	4.778
0.135	0.091	•	4.927
0.147	0.112	0.016	4.001
0.126	0.077	0.008	5.121
0.153	0.082	•	4.429

Basic Table 28. Total Ningxia Province (28): age-specific fertility rates,

Birth year of child	15–19	20–24	25–29	30–34
1940	0.068	•	•	•
1941	0.045	•	•	•
1942	0.063	•	•	•
1943	0.232	•	•	•
1944	0.116	•	•	•
1945	0.209	0.250	•	•
1946	0.142	0.293	•	•
1947	0.139	0.399	•	•
1948	0.146	0.279	•	•
1949	0.192	0.232	•	•
1950	0.172	0.441	0.363	•
1951	0.144	0.159	0.180	•
1952	0.168	0.325	0.315	•
1953	0.139	0.278	0.302	•
1954	0.210	0.332	0.372	•
1955	0.077	0.382	0.301	0.159
1956	0.144	0.348	0.407	0.383
1957	0.149	0.277	0.278	0.315
1958	0.178	0.256	0.336	0.209
1959	0.071	0.158	0.268	0.209
1960	0.030	0.126	0.185	0.139
1961	0.065	0.144	0.120	0.124
1962	0.205	0.317	0.361	0.294
1963	0.158	0.367	0.320	0.336
1964	0.122	0.426	0.263	0.204
1965	0.121	0.314	0.290	0.246
1966	0.096	0.342	0.356	0.288
1967	0.031	0.351	0.345	0.241
1968	0.087	0.417	0.367	0.256
1969	0.082	0.349	0.315	0.242
1970	0.074	0.290	0.264	0.280
1971	0.054	0.275	0.435	0.202
1972	0.046	0.228	0.359	0.205
1973	0.030	0.350	0.244	0.277
1974	0.047	0.252	0.304	0.254
1975	0.073	0.305	0.344	0.213
1976	0.036	0.229	0.281	0.139
1977	0.006	0.271	0.228	0.154
1978	•	0.250	0.292	0.134
1979	0.005	0.228	0.277	0.213
1980	0.013	0.204	0.310	0.169
1981	0.044	0.342	0.244	0.089
1982	0.016	0.276	0.246	0.134

1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.773
.	.	.	7.157
.	.	.	7.896
.	.	.	5.837
.	.	.	6.148
.	.	.	8.680
.	.	.	3.799
.	.	.	6.580
.	.	.	6.536
.	.	.	7.391
.	.	.	6.416
.	.	.	8.602
.	.	.	6.707
.	.	.	6.105
.	.	.	4.082
0.091	.	.	3.518
0.135	.	.	3.144
0.231	.	.	8.164
0.209	.	.	7.171
0.163	0.151	0.053	6.911
0.186	0.023	0.045	6.126
0.212	0.158	.	7.262
0.217	0.063	.	6.233
0.219	0.070	0.086	7.514
0.166	0.116	.	6.352
0.234	0.023	0.045	6.051
0.144	0.106	.	6.076
0.168	0.139	.	5.728
0.160	0.117	.	5.894
0.179	0.077	0.023	5.672
0.135	0.148	0.046	6.321
0.116	0.084	0.035	4.598
0.056	0.060	0.046	4.107
0.119	0.021	0.058	4.370
0.132	0.074	0.026	4.772
0.051	0.087	0.012	4.227
0.037	0.029	.	3.923
0.034	0.038	0.024	3.836

Basic Table 29.A. Total Xinjian Province (29): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.105	.	.	.
1941	0.078	.	.	.
1942	0.141	.	.	.
1943	0.115	.	.	.
1944	0.104	.	.	.
1945	0.119	0.163	.	.
1946	0.087	0.239	.	.
1947	0.086	0.180	.	.
1948	0.074	0.223	.	.
1949	0.093	0.220	.	.
1950	0.091	0.261	0.198	.
1951	0.071	0.230	0.178	.
1952	0.110	0.286	0.337	.
1953	0.095	0.179	0.205	.
1954	0.112	0.259	0.353	.
1955	0.119	0.192	0.239	0.146
1956	0.117	0.257	0.327	0.267
1957	0.104	0.214	0.227	0.264
1958	0.105	0.292	0.279	0.314
1959	0.076	0.210	0.232	0.191
1960	0.049	0.226	0.242	0.227
1961	0.080	0.185	0.208	0.179
1962	0.080	0.285	0.277	0.290
1963	0.083	0.274	0.321	0.201
1964	0.106	0.242	0.309	0.294
1965	0.117	0.289	0.289	0.233
1966	0.122	0.332	0.277	0.242
1967	0.098	0.291	0.288	0.185
1968	0.123	0.307	0.283	0.312
1969	0.116	0.310	0.320	0.224
1970	0.113	0.280	0.311	0.236
1971	0.105	0.296	0.272	0.204
1972	0.120	0.249	0.263	0.215
1973	0.112	0.258	0.314	0.196
1974	0.111	0.276	0.300	0.245
1975	0.122	0.253	0.247	0.151
1976	0.097	0.283	0.281	0.163
1977	0.094	0.212	0.247	0.164
1978	0.087	0.208	0.268	0.150
1979	0.053	0.229	0.223	0.144
1980	0.051	0.221	0.187	0.110
1981	0.055	0.209	0.230	0.135
1982	0.050	0.201	0.283	0.159

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.063
.	.	.	4.730
.	.	.	3.795
.	.	.	3.847
.	.	.	4.950
.	.	.	4.567
.	.	.	4.131
.	.	.	6.014
.	.	.	4.132
.	.	.	6.279
.	.	.	4.482
.	.	.	6.322
.	.	.	5.120
.	.	.	6.520
.	.	.	4.568
0.169	.	.	5.025
0.100	.	.	4.463
0.157	.	.	6.355
0.175	.	.	5.838
0.255	0.116	0.075	6.988
0.193	0.151	0.059	6.655
0.169	0.105	0.039	6.434
0.141	0.124	0.064	5.952
0.179	0.084	0.079	6.834
0.145	0.104	0.043	6.318
0.173	0.108	0.035	6.285
0.124	0.066	0.033	5.503
0.162	0.095	0.011	5.574
0.132	0.056	0.018	5.427
0.145	0.076	0.023	5.877
0.130	0.057	0.017	4.891
0.107	0.074	0.026	5.157
0.071	0.029	0.013	4.174
0.047	0.032	0.015	4.028
0.063	0.025	0.003	3.703
0.047	0.024	0.013	3.262
0.062	0.019	0.006	3.582
0.079	0.023	0.012	4.038

Basic Table 29.B. Urban Xinjian Province (29): age-specific fertility

Birth year of child	15-19	20-24	25-29	30-34
1940	0.125	.	.	.
1941	0.056	.	.	.
1942	.	.	.	.
1943	0.035	.	.	.
1944	0.051	.	.	.
1945	0.093	0.376	.	.
1946	0.040	0.446	.	.
1947	0.055	0.086	.	.
1948	0.045	0.244	.	.
1949	0.057	0.202	.	.
1950	0.094	0.186	0.125	.
1951	0.032	0.336	0.167	.
1952	0.072	0.222	0.302	.
1953	0.024	0.166	0.313	.
1954	0.080	0.255	0.278	.
1955	0.067	0.141	0.209	0.125
1956	0.041	0.346	0.277	0.335
1957	0.059	0.198	0.222	0.129
1958	0.069	0.253	0.227	0.488
1959	0.032	0.246	0.298	0.202
1960	0.026	0.195	0.176	0.255
1961	0.027	0.159	0.227	0.198
1962	0.033	0.246	0.270	0.296
1963	0.022	0.240	0.367	0.227
1964	0.046	0.217	0.246	0.284
1965	0.031	0.283	0.255	0.165
1966	0.034	0.277	0.253	0.173
1967	0.030	0.283	0.209	0.171
1968	.	0.270	0.293	0.220
1969	0.008	0.296	0.290	0.166
1970	0.017	0.262	0.236	0.114
1971	0.009	0.211	0.277	0.200
1972	0.028	0.170	0.216	0.150
1973	0.009	0.163	0.331	0.186
1974	0.016	0.189	0.261	0.153
1975	.	0.172	0.193	0.105
1976	.	0.158	0.246	0.059
1977	0.013	0.074	0.221	0.083
1978	.	0.062	0.210	0.073
1979	.	0.071	0.164	0.023
1980	.	0.046	0.129	0.019
1981	.	0.029	0.149	0.007
1982	.	0.039	0.232	0.030

rates, 1940–82

35–39	40–44	45–49	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	6.706
•	•	•	5.242
•	•	•	5.992
•	•	•	3.493
•	•	•	7.598
•	•	•	5.944
•	•	•	5.872
•	•	•	6.444
•	•	•	4.977
•	•	•	7.278
•	•	•	4.734
•	•	•	7.126
•	•	•	4.919
•	•	•	7.105
•	•	•	5.444
•	•	•	4.252
0.223	•	•	5.128
0.216	•	•	6.810
0.070	•	•	5.735
0.228	•	•	5.100
0.162	0.125	0.070	5.458
0.079	•	•	4.080
0.074	•	0.076	4.210
0.030	0.035	•	4.240
0.142	0.076	•	4.891
0.094	0.046	•	3.847
0.076	0.040	•	4.062
0.081	0.055	•	3.499
0.098	0.015	•	4.015
0.065	0.014	•	3.490
0.054	0.012	•	2.678
0.029	•	•	2.457
0.021	•	•	2.066
0.011	•	•	1.777
•	•	•	1.294
0.005	•	•	0.995
•	•	•	0.923
•	•	•	1.504

Basic Table 29.C. Rural Xinjian Province (29): age-specific fertility

Birth year of child	15–19	20–24	25–29	30–34
1940	0.103	.	.	.
1941	0.080	.	.	.
1942	0.162	.	.	.
1943	0.131	.	.	.
1944	0.120	.	.	.
1945	0.128	0.141	.	.
1946	0.103	0.216	.	.
1947	0.096	0.194	.	.
1948	0.084	0.219	.	.
1949	0.105	0.225	.	.
1950	0.090	0.286	0.205	.
1951	0.087	0.193	0.179	.
1952	0.128	0.306	0.342	.
1953	0.133	0.183	0.182	.
1954	0.132	0.261	0.375	.
1955	0.154	0.210	0.248	0.148
1956	0.170	0.222	0.345	0.259
1957	0.139	0.221	0.228	0.284
1958	0.130	0.314	0.296	0.277
1959	0.106	0.189	0.210	0.188
1960	0.064	0.246	0.266	0.218
1961	0.111	0.203	0.200	0.172
1962	0.104	0.316	0.281	0.288
1963	0.113	0.299	0.296	0.192
1964	0.134	0.261	0.347	0.297
1965	0.153	0.292	0.311	0.257
1966	0.155	0.365	0.294	0.270
1967	0.123	0.295	0.350	0.192
1968	0.166	0.325	0.276	0.362
1969	0.150	0.317	0.341	0.259
1970	0.140	0.288	0.359	0.316
1971	0.131	0.327	0.270	0.207
1972	0.142	0.278	0.287	0.266
1973	0.137	0.291	0.306	0.203
1974	0.138	0.304	0.317	0.308
1975	0.162	0.276	0.270	0.181
1976	0.131	0.318	0.294	0.225
1977	0.126	0.246	0.257	0.205
1978	0.127	0.244	0.288	0.187
1979	0.076	0.274	0.241	0.199
1980	0.071	0.277	0.203	0.148
1981	0.076	0.272	0.252	0.182
1982	0.070	0.270	0.295	0.207

rates, 1940–82

35–39	40–44	45–49	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.557
.	.	.	4.627
.	.	.	3.350
.	.	.	3.922
.	.	.	4.343
.	.	.	4.216
.	.	.	3.662
.	.	.	5.890
.	.	.	3.873
.	.	.	5.946
.	.	.	4.391
.	.	.	6.014
.	.	.	5.203
.	.	.	6.281
.	.	.	4.197
0.186	.	.	5.359
0.086	.	.	4.172
0.149	.	.	6.157
0.197	.	.	5.882
0.263	0.126	0.087	7.569
0.203	0.154	0.057	7.143
0.200	0.117	0.044	7.224
0.162	0.142	0.063	6.636
0.227	0.095	0.036	7.682
0.146	0.113	0.046	6.867
0.202	0.128	0.039	7.360
0.144	0.076	0.037	5.956
0.200	0.108	0.013	6.468
0.150	0.069	0.022	5.888
0.193	0.096	0.030	6.934
0.180	0.073	0.023	5.822
0.161	0.104	0.034	6.342
0.110	0.043	0.024	5.049
0.073	0.049	0.020	4.934
0.106	0.040	0.005	4.705
0.074	0.039	0.017	4.151
0.098	0.033	0.009	4.615
0.118	0.042	0.018	5.095

Basic Table 30.A. Total China: duration-specific fertility rates, 1940–82

Birth year of child	0–4	5–9	10–14	15–19
1940	0.223	•	•	•
1941	0.235	•	•	•
1942	0.226	•	•	•
1943	0.230	•	•	•
1944	0.232	•	•	•
1945	0.240	0.257	•	•
1946	0.250	0.270	•	•
1947	0.260	0.280	•	•
1948	0.251	0.261	•	•
1949	0.271	0.295	•	•
1950	0.262	0.279	0.238	•
1951	0.269	0.268	0.240	•
1952	0.314	0.305	0.268	•
1953	0.304	0.291	0.253	•
1954	0.317	0.300	0.273	•
1955	0.319	0.311	0.263	0.216
1956	0.298	0.287	0.252	0.205
1957	0.335	0.317	0.282	0.225
1958	0.292	0.288	0.247	0.203
1959	0.220	0.229	0.192	0.159
1960	0.204	0.211	0.184	0.148
1961	0.179	0.184	0.152	0.113
1962	0.305	0.334	0.284	0.214
1963	0.384	0.380	0.335	0.277
1964	0.335	0.314	0.276	0.207
1965	0.331	0.315	0.271	0.213
1966	0.359	0.328	0.273	0.225
1967	0.313	0.290	0.240	0.185
1968	0.388	0.357	0.281	0.225
1969	0.345	0.313	0.253	0.198
1970	0.366	0.311	0.256	0.197
1971	0.357	0.307	0.242	0.177
1972	0.346	0.280	0.218	0.160
1973	0.348	0.274	0.201	0.138
1974	0.371	0.260	0.175	0.114
1975	0.345	0.242	0.145	0.091
1976	0.356	0.216	0.125	0.079
1977	0.342	0.193	0.103	0.065
1978	0.347	0.191	0.100	0.051
1979	0.363	0.196	0.094	0.046
1980	0.311	0.155	0.061	0.030
1981	0.359	0.151	0.064	0.033
1982	0.330	0.147	0.069	0.036

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.154
.	.	.	5.401
.	.	.	5.605
.	.	.	5.271
.	.	.	5.903
.	.	.	5.592
.	.	.	5.555
.	.	.	6.324
.	.	.	6.021
.	.	.	6.337
.	.	.	6.376
.	.	.	5.995
.	.	.	6.656
.	.	.	5.923
.	.	.	4.594
0.095	.	.	4.350
0.068	.	.	3.592
0.118	.	.	6.497
0.172	.	.	8.020
0.136	0.054	0.009	6.654
0.134	0.046	0.010	6.605
0.139	0.045	0.008	6.891
0.111	0.035	0.006	5.894
0.131	0.042	0.006	7.153
0.119	0.039	0.004	6.351
0.120	0.035	0.005	6.455
0.109	0.028	0.003	6.110
0.099	0.027	0.003	5.664
0.082	0.021	0.004	5.337
0.069	0.022	0.002	5.067
0.052	0.019	0.002	4.482
0.040	0.015	0.002	4.162
0.030	0.011	0.002	3.726
0.024	0.009	0.001	3.620
0.023	0.007	0.001	3.649
0.014	0.004	0.001	2.883
0.016	0.005	0.001	3.149
0.016	0.005	0.001	3.024

Basic Table 30.B: Urban China: duration-specific fertility rates, 1940–82

Birth year of child	0–4	5–9	10–14	15–19
1940	0.232	.	.	.
1941	0.241	.	.	.
1942	0.242	.	.	.
1943	0.238	.	.	.
1944	0.250	.	.	.
1945	0.257	0.228	.	.
1946	0.272	0.250	.	.
1947	0.281	0.257	.	.
1948	0.265	0.249	.	.
1949	0.298	0.284	.	.
1950	0.299	0.270	0.227	.
1951	0.309	0.260	0.212	.
1952	0.319	0.286	0.254	.
1953	0.328	0.279	0.234	.
1954	0.341	0.319	0.255	.
1955	0.343	0.302	0.250	0.181
1956	0.324	0.280	0.235	0.191
1957	0.379	0.331	0.278	0.190
1958	0.337	0.298	0.232	0.178
1959	0.290	0.254	0.166	0.141
1960	0.283	0.235	0.195	0.127
1961	0.226	0.175	0.143	0.094
1962	0.349	0.294	0.223	0.150
1963	0.416	0.362	0.294	0.205
1964	0.348	0.260	0.186	0.135
1965	0.334	0.236	0.150	0.096
1966	0.304	0.196	0.119	0.084
1967	0.310	0.200	0.110	0.063
1968	0.393	0.269	0.147	0.082
1969	0.351	0.213	0.127	0.077
1970	0.377	0.204	0.116	0.057
1971	0.336	0.184	0.097	0.051
1972	0.322	0.173	0.093	0.046
1973	0.327	0.167	0.086	0.030
1974	0.322	0.136	0.060	0.023
1975	0.327	0.120	0.047	0.022
1976	0.311	0.109	0.034	0.016
1977	0.319	0.096	0.030	0.012
1978	0.330	0.088	0.026	0.007
1979	0.271	0.086	0.024	0.005
1980	0.243	0.053	0.007	0.001
1981	0.286	0.032	0.004	0.003
1982	0.267	0.021	0.007	0.001

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.947
.	.	.	5.379
.	.	.	5.540
.	.	.	5.335
.	.	.	6.059
.	.	.	5.762
.	.	.	5.588
.	.	.	6.228
.	.	.	6.044
.	.	.	6.631
.	.	.	6.242
.	.	.	5.987
.	.	.	6.824
.	.	.	6.053
.	.	.	4.910
0.079	.	.	4.760
0.056	.	.	3.593
0.073	.	.	5.642
0.118	.	.	7.241
0.070	0.027	0.003	5.151
0.060	0.021	.	4.485
0.040	0.013	0.002	3.785
0.032	0.010	0.002	3.635
0.049	0.012	0.001	4.764
0.033	0.010	0.002	4.060
0.033	0.006	0.001	3.966
0.026	0.006	0.000	3.500
0.020	0.004	0.000	3.294
0.015	0.001	0.001	3.132
0.008	0.003	0.000	2.762
0.004	0.002	0.001	2.610
0.004	0.004	.	2.385
0.003	0.000	0.000	2.301
0.003	0.001	.	2.275
0.002	0.001	0.001	1.952
0.001	0.000	0.000	1.523
0.000	0.001	0.000	1.630
.	.	.	1.478

Basic Table 30.C. Rural China: duration-specific fertility rates, 1940–82

Birth year of child	0–4	5–9	10–14	15–19
1940	0.222	.	.	.
1941	0.234	.	.	.
1942	0.224	.	.	.
1943	0.229	.	.	.
1944	0.229	.	.	.
1945	0.237	0.262	.	.
1946	0.245	0.273	.	.
1947	0.256	0.284	.	.
1948	0.248	0.263	.	.
1949	0.266	0.297	.	.
1950	0.254	0.281	0.240	.
1951	0.261	0.269	0.245	.
1952	0.313	0.309	0.271	.
1953	0.298	0.293	0.256	.
1954	0.312	0.296	0.276	.
1955	0.314	0.313	0.266	0.222
1956	0.291	0.289	0.255	0.207
1957	0.324	0.314	0.283	0.231
1958	0.281	0.286	0.250	0.208
1959	0.203	0.223	0.197	0.162
1960	0.186	0.206	0.182	0.152
1961	0.168	0.186	0.154	0.117
1962	0.296	0.344	0.297	0.226
1963	0.378	0.384	0.344	0.292
1964	0.333	0.328	0.296	0.222
1965	0.331	0.334	0.299	0.238
1966	0.368	0.358	0.309	0.255
1967	0.313	0.309	0.271	0.210
1968	0.387	0.374	0.314	0.256
1969	0.345	0.331	0.283	0.225
1970	0.365	0.330	0.290	0.229
1971	0.360	0.327	0.274	0.207
1972	0.350	0.298	0.243	0.188
1973	0.351	0.290	0.223	0.165
1974	0.378	0.280	0.196	0.137
1975	0.347	0.262	0.162	0.108
1976	0.363	0.233	0.140	0.093
1977	0.346	0.207	0.115	0.076
1978	0.350	0.206	0.112	0.060
1979	0.379	0.211	0.105	0.053
1980	0.324	0.170	0.070	0.035
1981	0.375	0.168	0.073	0.038
1982	0.345	0.168	0.079	0.042

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.190
.	.	.	5.405
.	.	.	5.617
.	.	.	5.259
.	.	.	5.874
.	.	.	5.560
.	.	.	5.549
.	.	.	6.342
.	.	.	6.016
.	.	.	6.280
.	.	.	6.403
.	.	.	5.996
.	.	.	6.623
.	.	.	5.897
.	.	.	4.530
0.098	.	.	4.266
0.070	.	.	3.591
0.126	.	.	6.669
0.181	.	.	8.176
0.148	0.058	0.009	6.969
0.148	0.051	0.011	7.057
0.159	0.051	0.009	7.544
0.127	0.039	0.006	6.378
0.148	0.048	0.006	7.669
0.136	0.044	0.005	6.843
0.138	0.040	0.006	6.989
0.127	0.032	0.003	6.649
0.116	0.031	0.003	6.144
0.097	0.025	0.004	5.776
0.083	0.026	0.002	5.506
0.063	0.023	0.002	4.833
0.048	0.017	0.002	4.481
0.036	0.014	0.002	3.977
0.030	0.011	0.002	3.848
0.028	0.009	0.001	3.934
0.018	0.005	0.001	3.111
0.020	0.006	0.001	3.413
0.019	0.006	0.001	3.299

Basic Table 31.A. Total Beijing Province (1): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.194	.	.	.
1941	0.239	.	.	.
1942	0.181	.	.	.
1943	0.264	.	.	.
1944	0.220	.	.	.
1945	0.221	0.240	.	.
1946	0.214	0.222	.	.
1947	0.207	0.313	.	.
1948	0.223	0.313	.	.
1949	0.246	0.235	.	.
1950	0.227	0.273	0.324	.
1951	0.285	0.262	0.248	.
1952	0.296	0.322	0.231	.
1953	0.289	0.264	0.198	.
1954	0.303	0.314	0.264	.
1955	0.343	0.307	0.345	0.194
1956	0.311	0.276	0.179	0.239
1957	0.352	0.319	0.293	0.206
1958	0.314	0.284	0.239	0.181
1959	0.199	0.287	0.201	0.191
1960	0.234	0.270	0.165	0.156
1961	0.192	0.131	0.159	0.113
1962	0.326	0.269	0.236	0.190
1963	0.428	0.395	0.368	0.249
1964	0.276	0.243	0.216	0.172
1965	0.267	0.263	0.174	0.085
1966	0.300	0.187	0.142	0.091
1967	0.274	0.229	0.137	0.051
1968	0.415	0.238	0.119	0.095
1969	0.370	0.265	0.117	0.103
1970	0.436	0.209	0.115	0.073
1971	0.332	0.185	0.131	0.055
1972	0.317	0.192	0.092	0.024
1973	0.354	0.179	0.092	0.038
1974	0.296	0.139	0.033	0.010
1975	0.265	0.093	0.035	0.033
1976	0.310	0.126	0.006	0.020
1977	0.316	0.110	0.021	0.005
1978	0.264	0.132	0.032	0.005
1979	0.300	0.089	0.011	0.006
1980	0.290	0.074	0.024	0.006
1981	0.290	0.038	.	.
1982	0.219	0.018	0.025	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.838
.	.	.	4.569
.	.	.	5.976
.	.	.	6.018
.	.	.	4.849
.	.	.	6.229
.	.	.	5.629
.	.	.	6.119
.	.	.	5.398
.	.	.	6.294
.	.	.	6.933
.	.	.	5.709
.	.	.	6.696
.	.	.	6.027
.	.	.	5.119
0.129	.	.	4.901
0.071	.	.	3.423
0.156	.	.	6.064
0.165	.	.	8.345
0.198	0.060	0.024	5.939
0.052	0.037	0.019	4.486
0.071	0.018	.	4.041
0.040	0.041	.	3.859
0.073	0.016	.	4.779
0.059	0.022	.	4.677
0.047	0.046	.	4.626
0.027	.	.	3.651
0.023	.	.	3.245
.	0.005	.	3.342
0.005	.	.	2.419
.	.	.	2.130
.	.	.	2.311
.	.	.	2.258
.	.	.	2.171
0.005	.	.	2.052
.	.	.	1.968
.	.	.	1.636
.	.	.	1.307

Basic Table 31.B. Urban Beijing Province (1): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.280	.	.	.
1941	0.261	.	.	.
1942	0.173	.	.	.
1943	0.242	.	.	.
1944	0.226	.	.	.
1945	0.171	0.140	.	.
1946	0.215	0.298	.	.
1947	0.213	0.267	.	.
1948	0.249	0.302	.	.
1949	0.274	0.170	.	.
1950	0.244	0.305	0.381	.
1951	0.304	0.204	0.205	.
1952	0.275	0.287	0.188	.
1953	0.251	0.285	0.181	.
1954	0.328	0.355	0.255	.
1955	0.326	0.283	0.317	0.180
1956	0.302	0.304	0.158	0.168
1957	0.366	0.309	0.309	0.157
1958	0.280	0.259	0.276	0.181
1959	0.233	0.300	0.177	0.240
1960	0.248	0.248	0.157	0.110
1961	0.231	0.126	0.148	0.102
1962	0.308	0.263	0.186	0.160
1963	0.431	0.382	0.374	0.223
1964	0.247	0.226	0.175	0.153
1965	0.226	0.254	0.135	0.031
1966	0.341	0.154	0.112	0.042
1967	0.242	0.203	0.109	0.041
1968	0.445	0.215	0.083	0.072
1969	0.398	0.238	0.073	0.063
1970	0.385	0.187	0.085	0.064
1971	0.268	0.176	0.070	0.021
1972	0.270	0.115	0.065	0.013
1973	0.379	0.103	0.052	0.019
1974	0.232	0.074	0.009	0.007
1975	0.241	0.086	0.029	0.026
1976	0.385	0.122	0.011	0.021
1977	0.364	0.100	0.012	.
1978	0.248	0.076	0.010	0.009
1979	0.261	0.097	.	0.009
1980	0.253	0.039	0.017	.
1981	0.249	.	.	.
1982	0.206	.	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.111
.	.	.	5.872
.	.	.	5.357
.	.	.	6.106
.	.	.	4.102
.	.	.	7.138
.	.	.	5.033
.	.	.	5.443
.	.	.	5.243
.	.	.	6.861
.	.	.	6.457
.	.	.	5.397
.	.	.	6.609
.	.	.	5.829
.	.	.	5.615
0.080	.	.	4.376
0.093	.	.	3.640
0.063	.	.	5.074
0.166	.	.	8.188
0.099	.	.	4.498
0.024	.	.	3.354
0.011	0.037	.	3.494
0.011	.	.	3.028
0.009	.	.	4.119
0.024	0.014	.	4.053
0.016	0.012	.	3.740
0.007	.	.	2.710
0.014	.	.	2.383
.	.	.	2.766
0.007	.	.	1.644
.	.	.	1.910
.	.	.	2.695
.	.	.	2.377
.	.	.	1.712
.	.	.	1.833
.	.	.	1.545
.	.	.	1.243
.	.	.	1.029

Basic Table 31.C. Rural Beijing Province (1): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.120	.	.	.
1941	0.220	.	.	.
1942	0.191	.	.	.
1943	0.290	.	.	.
1944	0.213	.	.	.
1945	0.279	0.326	.	.
1946	0.213	0.152	.	.
1947	0.200	0.364	.	.
1948	0.186	0.326	.	.
1949	0.201	0.305	.	.
1950	0.200	0.237	0.275	.
1951	0.253	0.327	0.287	.
1952	0.340	0.362	0.277	.
1953	0.373	0.236	0.218	.
1954	0.232	0.251	0.274	.
1955	0.410	0.342	0.376	0.206
1956	0.343	0.228	0.201	0.304
1957	0.309	0.340	0.274	0.260
1958	0.416	0.341	0.186	0.181
1959	0.108	0.251	0.239	0.137
1960	0.198	0.355	0.177	0.209
1961	0.090	0.147	0.177	0.126
1962	0.363	0.289	0.340	0.224
1963	0.423	0.435	0.357	0.285
1964	0.325	0.289	0.329	0.201
1965	0.327	0.287	0.328	0.165
1966	0.242	0.271	0.245	0.177
1967	0.321	0.281	0.227	0.071
1968	0.366	0.277	0.227	0.146
1969	0.331	0.310	0.235	0.213
1970	0.503	0.241	0.198	0.109
1971	0.412	0.197	0.289	0.171
1972	0.370	0.304	0.149	0.062
1973	0.329	0.300	0.160	0.095
1974	0.357	0.229	0.074	0.018
1975	0.289	0.103	0.043	0.054
1976	0.204	0.131	.	0.018
1977	0.232	0.120	0.034	0.017
1978	0.297	0.191	0.067	.
1979	0.372	0.082	0.025	.
1980	0.354	0.110	0.034	0.014
1981	0.355	0.090	.	.
1982	0.241	0.049	0.052	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.381
.	.	.	3.394
.	.	.	6.565
.	.	.	5.924
.	.	.	5.663
.	.	.	5.234
.	.	.	6.324
.	.	.	6.953
.	.	.	5.604
.	.	.	5.502
.	.	.	7.620
.	.	.	6.171
.	.	.	6.830
.	.	.	6.343
.	.	.	4.319
0.172	.	.	5.770
0.051	.	.	3.064
0.260	.	.	7.666
0.163	.	.	8.599
0.305	0.108	0.034	7.953
0.084	0.069	0.028	6.436
0.138	.	.	5.367
0.075	0.087	.	5.305
0.161	0.036	.	6.069
0.113	0.030	.	6.165
0.094	0.084	.	6.148
0.063	.	.	5.665
0.042	.	.	4.635
.	0.012	.	4.481
.	.	.	3.392
.	.	.	2.444
.	.	.	1.762
.	.	.	2.015
.	.	.	2.770
0.018	.	.	2.492
.	.	.	2.563
.	.	.	2.225
.	.	.	1.708

Basic Table 32.A. Total Tianjin Province (2): duration-specific fertility

Birth year of child	0-4	5-9	10-14	15-19
1940	0.279	.	.	.
1941	0.163	.	.	.
1942	0.324	.	.	.
1943	0.302	.	.	.
1944	0.195	.	.	.
1945	0.240	0.167	.	.
1946	0.236	0.288	.	.
1947	0.260	0.317	.	.
1948	0.227	0.214	.	.
1949	0.239	0.315	.	.
1950	0.298	0.262	0.232	.
1951	0.343	0.246	0.241	.
1952	0.315	0.287	0.317	.
1953	0.298	0.275	0.246	.
1954	0.372	0.354	0.258	.
1955	0.345	0.335	0.366	0.269
1956	0.343	0.316	0.246	0.288
1957	0.405	0.371	0.281	0.277
1958	0.386	0.361	0.286	0.214
1959	0.317	0.235	0.169	0.155
1960	0.395	0.291	0.242	0.175
1961	0.176	0.193	0.185	0.173
1962	0.365	0.321	0.272	0.173
1963	0.445	0.424	0.315	0.292
1964	0.354	0.241	0.155	0.199
1965	0.394	0.294	0.168	0.126
1966	0.282	0.225	0.094	0.081
1967	0.322	0.257	0.119	0.078
1968	0.360	0.229	0.156	0.068
1969	0.367	0.286	0.129	0.062
1970	0.356	0.246	0.147	0.082
1971	0.347	0.251	0.176	0.023
1972	0.380	0.182	0.107	0.035
1973	0.309	0.180	0.101	0.054
1974	0.335	0.177	0.082	0.029
1975	0.345	0.211	0.049	0.033
1976	0.354	0.181	0.078	0.014
1977	0.284	0.113	0.050	0.021
1978	0.353	0.083	0.029	0.007
1979	0.303	0.079	0.032	0.007
1980	0.284	0.094	.	.
1981	0.282	0.037	0.005	.
1982	0.237	0.009	0.010	.

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.856
•	•	•	5.673
•	•	•	6.245
•	•	•	4.479
•	•	•	6.123
•	•	•	5.749
•	•	•	5.823
•	•	•	6.634
•	•	•	5.870
•	•	•	6.887
•	•	•	7.617
•	•	•	6.986
•	•	•	7.695
•	•	•	7.115
•	•	•	5.004
0.121	•	•	6.403
0.101	•	•	4.338
0.142	•	•	6.833
0.157	•	•	8.523
0.143	0.021	•	5.570
0.087	0.028	0.020	5.586
0.058	0.031	•	3.854
0.043	0.014	•	4.163
0.070	0.038	•	4.603
0.045	0.029	•	4.590
0.056	0.016	•	4.514
0.032	0.016	0.008	4.260
0.030	0.016	•	3.750
0.017	•	•	3.302
0.004	•	•	3.137
0.009	•	•	3.239
•	•	•	3.140
0.015	•	•	2.418
0.005	0.004	•	2.402
0.006	•	•	2.130
•	•	•	1.888
•	•	•	1.619
•	•	•	1.282

Basic Table 32.B. Urban Tianjin Province (2): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.327	.	.	.
1941	0.131	.	.	.
1942	0.295	.	.	.
1943	0.325	.	.	.
1944	0.207	.	.	.
1945	0.203	0.172	.	.
1946	0.268	0.276	.	.
1947	0.255	0.271	.	.
1948	0.239	0.163	.	.
1949	0.256	0.286	.	.
1950	0.247	0.240	0.241	.
1951	0.360	0.251	0.247	.
1952	0.323	0.230	0.283	.
1953	0.293	0.282	0.217	.
1954	0.389	0.324	0.168	.
1955	0.337	0.313	0.323	0.224
1956	0.341	0.290	0.251	0.291
1957	0.403	0.364	0.255	0.246
1958	0.395	0.398	0.273	0.195
1959	0.316	0.219	0.136	0.089
1960	0.413	0.288	0.193	0.157
1961	0.222	0.171	0.240	0.164
1962	0.484	0.318	0.239	0.136
1963	0.406	0.340	0.293	0.282
1964	0.276	0.230	0.109	0.121
1965	0.359	0.163	0.104	0.060
1966	0.242	0.190	0.057	0.025
1967	0.297	0.104	0.064	0.030
1968	0.367	0.152	0.071	0.041
1969	0.414	0.173	0.077	0.036
1970	0.293	0.100	0.063	0.043
1971	0.339	0.132	0.095	0.006
1972	0.374	0.069	0.017	0.007
1973	0.329	0.086	0.017	0.016
1974	0.290	0.180	0.052	.
1975	0.287	0.117	0.020	.
1976	0.201	0.088	.	.
1977	0.301	0.045	.	.
1978	0.296	0.057	.	.
1979	0.243	0.048	.	.
1980	0.248	0.048	.	.
1981	0.260	0.011	0.013	.
1982	0.179	.	.	.

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.786
•	•	•	5.787
•	•	•	5.632
•	•	•	3.812
•	•	•	5.880
•	•	•	5.373
•	•	•	6.081
•	•	•	6.036
•	•	•	5.739
•	•	•	6.135
•	•	•	7.010
•	•	•	6.873
•	•	•	7.370
•	•	•	7.321
•	•	•	4.306
0.121	•	•	6.068
0.102	•	•	4.682
0.074	•	•	6.455
0.087	•	•	7.302
0.099	•	•	4.173
0.046	•	•	3.660
•	•	•	2.575
•	•	•	2.471
0.034	•	•	3.326
0.030	0.020	•	3.749
0.027	•	•	2.623
0.006	•	•	2.897
•	•	•	2.334
0.006	•	•	2.271
•	•	•	2.610
•	•	•	2.121
•	•	•	1.446
0.007	•	•	1.765
•	0.006	•	1.793
•	•	•	1.459
•	•	•	1.481
•	•	•	1.417
•	•	•	0.894

Basic Table 32.C. Rural Tianjin Province (2): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.222	.	.	.
1941	0.200	.	.	.
1942	0.359	.	.	.
1943	0.270	.	.	.
1944	0.178	.	.	.
1945	0.294	0.161	.	.
1946	0.187	0.300	.	.
1947	0.268	0.374	.	.
1948	0.206	0.286	.	.
1949	0.206	0.356	.	.
1950	0.416	0.294	0.222	.
1951	0.300	0.240	0.234	.
1952	0.295	0.387	0.359	.
1953	0.310	0.264	0.286	.
1954	0.326	0.412	0.384	.
1955	0.369	0.385	0.428	0.323
1956	0.347	0.380	0.240	0.284
1957	0.410	0.388	0.328	0.314
1958	0.367	0.263	0.308	0.240
1959	0.320	0.277	0.235	0.247
1960	0.374	0.299	0.354	0.201
1961	0.139	0.256	0.047	0.187
1962	0.280	0.328	0.357	0.238
1963	0.470	0.600	0.372	0.308
1964	0.405	0.259	0.277	0.353
1965	0.413	0.445	0.352	0.277
1966	0.304	0.252	0.201	0.221
1967	0.337	0.366	0.246	0.202
1968	0.357	0.280	0.333	0.139
1969	0.342	0.360	0.213	0.131
1970	0.394	0.326	0.244	0.193
1971	0.352	0.317	0.239	0.073
1972	0.384	0.246	0.171	0.098
1973	0.289	0.227	0.157	0.133
1974	0.380	0.176	0.101	0.076
1975	0.409	0.269	0.065	0.072
1976	0.492	0.247	0.122	0.025
1977	0.273	0.166	0.078	0.037
1978	0.392	0.107	0.043	0.011
1979	0.351	0.110	0.049	0.011
1980	0.317	0.145	.	.
1981	0.307	0.060	.	.
1982	0.329	0.015	0.018	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.941
.	.	.	5.529
.	.	.	7.062
.	.	.	5.395
.	.	.	6.476
.	.	.	6.327
.	.	.	5.411
.	.	.	7.631
.	.	.	6.093
.	.	.	8.192
.	.	.	8.719
.	.	.	7.193
.	.	.	8.279
.	.	.	6.748
.	.	.	6.195
0.121	.	.	6.965
0.100	.	.	3.782
0.224	.	.	7.424
0.255	.	.	10.388
0.205	0.050	.	7.748
0.147	0.061	0.036	8.655
0.147	0.067	.	5.961
0.119	0.030	.	6.496
0.132	0.090	.	6.657
0.074	0.041	.	5.800
0.123	0.040	.	6.604
0.095	0.040	0.017	5.665
0.109	0.045	.	5.264
0.046	.	.	4.263
0.016	.	.	3.746
0.035	.	.	4.248
.	.	.	4.426
0.033	.	.	2.929
0.017	.	.	2.850
0.015	.	.	2.685
.	.	.	2.308
.	.	.	1.834
.	.	.	1.813

Basic Table 33.A. Total Hebei Province (3): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.169	•	•	•
1941	0.162	•	•	•
1942	0.191	•	•	•
1943	0.152	•	•	•
1944	0.149	•	•	•
1945	0.198	0.268	•	•
1946	0.187	0.229	•	•
1947	0.216	0.262	•	•
1948	0.195	0.196	•	•
1949	0.253	0.291	•	•
1950	0.240	0.257	0.236	•
1951	0.243	0.232	0.234	•
1952	0.314	0.321	0.249	•
1953	0.294	0.243	0.247	•
1954	0.271	0.288	0.277	•
1955	0.318	0.309	0.255	0.208
1956	0.314	0.295	0.232	0.202
1957	0.312	0.284	0.276	0.194
1958	0.276	0.279	0.238	0.228
1959	0.236	0.213	0.178	0.164
1960	0.266	0.242	0.198	0.153
1961	0.150	0.137	0.109	0.074
1962	0.260	0.305	0.239	0.157
1963	0.359	0.376	0.346	0.279
1964	0.318	0.295	0.250	0.202
1965	0.331	0.331	0.277	0.202
1966	0.295	0.319	0.260	0.189
1967	0.307	0.279	0.230	0.164
1968	0.340	0.308	0.260	0.203
1969	0.294	0.287	0.232	0.154
1970	0.365	0.320	0.242	0.211
1971	0.343	0.274	0.234	0.192
1972	0.318	0.278	0.198	0.152
1973	0.336	0.247	0.164	0.111
1974	0.320	0.199	0.127	0.068
1975	0.283	0.213	0.091	0.049
1976	0.338	0.192	0.084	0.046
1977	0.310	0.163	0.087	0.042
1978	0.336	0.182	0.075	0.026
1979	0.308	0.186	0.075	0.025
1980	0.305	0.166	0.064	0.023
1981	0.368	0.176	0.091	0.036
1982	0.274	0.164	0.093	0.034

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.106
.	.	.	4.438
.	.	.	5.110
.	.	.	3.984
.	.	.	5.740
.	.	.	5.274
.	.	.	5.071
.	.	.	6.259
.	.	.	5.532
.	.	.	6.037
.	.	.	6.262
.	.	.	5.964
.	.	.	6.118
.	.	.	5.891
.	.	.	4.536
0.100	.	.	4.950
0.051	.	.	2.697
0.082	.	.	5.387
0.185	.	.	8.008
0.155	0.059	0.004	6.416
0.137	0.057	0.006	6.707
0.136	0.043	0.005	6.229
0.101	0.031	0.007	5.596
0.114	0.041	0.003	6.349
0.102	0.037	0.001	5.533
0.097	0.044	0.004	6.411
0.094	0.024	0.001	5.808
0.085	0.017	0.005	5.263
0.069	0.013	.	4.702
0.034	0.015	.	3.811
0.029	0.009	0.001	3.373
0.020	0.007	0.001	3.443
0.013	0.005	.	3.097
0.013	0.004	.	3.178
0.008	0.001	.	3.017
0.014	0.001	.	2.867
0.007	0.003	0.001	3.406
0.008	0.006	.	2.892

Basic Table 33.B. Urban Hebei Province (3): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.147	.	.	.
1941	0.233	.	.	.
1942	0.150	.	.	.
1943	0.119	.	.	.
1944	0.181	.	.	.
1945	0.199	0.327	.	.
1946	0.200	0.124	.	.
1947	0.189	0.245	.	.
1948	0.185	0.199	.	.
1949	0.263	0.194	.	.
1950	0.286	0.238	0.163	.
1951	0.346	0.213	0.280	.
1952	0.327	0.175	0.204	.
1953	0.293	0.259	0.265	.
1954	0.311	0.377	0.297	.
1955	0.274	0.265	0.344	0.114
1956	0.364	0.267	0.175	0.124
1957	0.326	0.318	0.310	0.204
1958	0.351	0.247	0.210	0.292
1959	0.275	0.188	0.160	0.181
1960	0.330	0.255	0.180	0.146
1961	0.142	0.086	0.089	0.088
1962	0.268	0.326	0.218	0.108
1963	0.391	0.408	0.293	0.210
1964	0.340	0.228	0.160	0.160
1965	0.257	0.243	0.123	0.095
1966	0.285	0.265	0.115	0.079
1967	0.334	0.214	0.158	0.045
1968	0.369	0.326	0.161	0.119
1969	0.313	0.189	0.152	0.057
1970	0.445	0.190	0.116	0.151
1971	0.343	0.243	0.123	0.086
1972	0.340	0.151	0.080	0.059
1973	0.287	0.168	0.056	0.009
1974	0.277	0.115	0.028	0.019
1975	0.390	0.061	0.038	.
1976	0.258	0.088	0.011	0.028
1977	0.292	0.128	0.022	0.018
1978	0.296	0.096	0.045	0.009
1979	0.245	0.106	0.042	.
1980	0.233	0.103	0.010	.
1981	0.407	0.124	0.009	.
1982	0.221	0.099	.	.

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	6.254
•	•	•	3.003
•	•	•	4.883
•	•	•	4.124
•	•	•	4.430
•	•	•	4.869
•	•	•	5.987
•	•	•	4.906
•	•	•	5.975
•	•	•	7.333
•	•	•	5.829
•	•	•	5.313
•	•	•	6.773
•	•	•	6.416
•	•	•	4.660
0.098	•	•	5.228
0.062	•	•	2.429
0.068	•	•	5.122
0.252	•	•	8.106
0.103	0.018	•	5.045
0.066	0.049	•	4.163
0.063	0.031	•	4.190
0.040	•	•	3.962
0.111	0.040	•	5.633
0.023	0.013	•	3.730
0.032	0.026	•	4.803
•	0.025	•	4.100
0.055	•	•	3.423
0.027	•	•	2.739
0.009	•	•	2.241
•	•	•	2.445
•	0.020	•	2.024
•	•	•	2.298
•	•	•	2.231
•	•	•	1.966
•	•	•	1.729
•	•	0.010	2.746
•	•	•	1.599

Basic Table 33.C. Rural Hebei Province (3): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.171	.	.	.
1941	0.157	.	.	.
1942	0.195	.	.	.
1943	0.154	.	.	.
1944	0.147	.	.	.
1945	0.198	0.263	.	.
1946	0.186	0.237	.	.
1947	0.219	0.264	.	.
1948	0.196	0.196	.	.
1949	0.253	0.300	.	.
1950	0.235	0.259	0.242	.
1951	0.232	0.234	0.230	.
1952	0.313	0.333	0.253	.
1953	0.294	0.242	0.245	.
1954	0.267	0.279	0.276	.
1955	0.323	0.313	0.248	0.216
1956	0.308	0.298	0.237	0.208
1957	0.310	0.280	0.274	0.193
1958	0.267	0.282	0.241	0.222
1959	0.231	0.216	0.179	0.162
1960	0.258	0.240	0.200	0.154
1961	0.151	0.143	0.111	0.073
1962	0.259	0.303	0.242	0.161
1963	0.356	0.372	0.352	0.285
1964	0.316	0.303	0.260	0.206
1965	0.338	0.342	0.294	0.213
1966	0.296	0.326	0.276	0.201
1967	0.305	0.287	0.238	0.178
1968	0.337	0.306	0.271	0.213
1969	0.292	0.297	0.241	0.165
1970	0.359	0.333	0.257	0.218
1971	0.343	0.276	0.248	0.203
1972	0.317	0.289	0.212	0.162
1973	0.340	0.253	0.177	0.122
1974	0.323	0.206	0.138	0.074
1975	0.275	0.225	0.097	0.055
1976	0.343	0.200	0.091	0.049
1977	0.312	0.165	0.093	0.045
1978	0.339	0.188	0.078	0.028
1979	0.314	0.191	0.078	0.028
1980	0.313	0.170	0.068	0.026
1981	0.363	0.179	0.098	0.039
1982	0.280	0.169	0.099	0.038

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.009
•	•	•	4.560
•	•	•	5.129
•	•	•	3.972
•	•	•	5.857
•	•	•	5.310
•	•	•	4.986
•	•	•	6.386
•	•	•	5.490
•	•	•	5.914
•	•	•	6.303
•	•	•	6.026
•	•	•	6.055
•	•	•	5.839
•	•	•	4.524
0.100	•	•	4.923
0.050	•	•	2.724
0.084	•	•	5.414
0.179	•	•	7.998
0.160	0.063	0.004	6.557
0.144	0.058	0.006	6.976
0.142	0.044	0.005	6.446
0.106	0.034	0.008	5.775
0.114	0.041	0.003	6.435
0.110	0.039	0.001	5.729
0.103	0.045	0.004	6.599
0.105	0.024	0.001	6.001
0.088	0.019	0.005	5.463
0.074	0.014	•	4.902
0.036	0.016	•	3.963
0.032	0.010	0.001	3.472
0.022	0.005	0.001	3.561
0.014	0.005	•	3.171
0.014	0.004	•	3.257
0.009	0.001	•	3.107
0.015	0.001	•	2.969
0.008	0.003	•	3.450
0.009	0.007	•	3.009

Basic Table 34.A. Total Shanxi Province (4): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.169	.	.	.
1941	0.175	.	.	.
1942	0.174	.	.	.
1943	0.172	.	.	.
1944	0.182	.	.	.
1945	0.172	0.208	.	.
1946	0.203	0.265	.	.
1947	0.187	0.225	.	.
1948	0.200	0.184	.	.
1949	0.158	0.253	.	.
1950	0.229	0.277	0.159	.
1951	0.275	0.243	0.207	.
1952	0.261	0.279	0.213	.
1953	0.328	0.248	0.211	.
1954	0.283	0.273	0.241	.
1955	0.310	0.290	0.230	0.226
1956	0.260	0.279	0.236	0.160
1957	0.335	0.329	0.233	0.203
1958	0.267	0.246	0.224	0.177
1959	0.211	0.237	0.241	0.213
1960	0.238	0.237	0.204	0.163
1961	0.215	0.213	0.166	0.152
1962	0.304	0.343	0.309	0.203
1963	0.352	0.322	0.320	0.242
1964	0.327	0.282	0.264	0.216
1965	0.321	0.292	0.271	0.186
1966	0.305	0.238	0.254	0.190
1967	0.295	0.308	0.306	0.189
1968	0.318	0.328	0.289	0.269
1969	0.315	0.296	0.272	0.180
1970	0.347	0.321	0.240	0.177
1971	0.348	0.303	0.244	0.226
1972	0.341	0.275	0.235	0.156
1973	0.324	0.266	0.231	0.136
1974	0.333	0.276	0.200	0.097
1975	0.284	0.243	0.118	0.084
1976	0.306	0.220	0.136	0.092
1977	0.279	0.210	0.094	0.080
1978	0.291	0.163	0.098	0.057
1979	0.299	0.162	0.099	0.042
1980	0.317	0.187	0.075	0.020
1981	0.316	0.134	0.051	0.024
1982	0.359	0.169	0.098	0.037

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.048
.	.	.	5.089
.	.	.	4.369
.	.	.	3.826
.	.	.	4.682
.	.	.	4.710
.	.	.	5.113
.	.	.	5.372
.	.	.	5.433
.	.	.	5.701
.	.	.	6.056
.	.	.	5.394
.	.	.	6.285
.	.	.	5.245
.	.	.	5.248
0.112	.	.	4.946
0.087	.	.	4.321
0.162	.	.	6.861
0.152	.	.	7.174
0.135	0.083	.	6.535
0.158	0.057	0.005	6.454
0.138	0.037	0.012	5.870
0.136	0.036	0.011	6.406
0.142	0.048	0.007	7.005
0.131	0.052	0.011	6.286
0.151	0.056	0.018	6.550
0.121	0.051	0.007	6.504
0.097	0.044	0.002	5.752
0.102	0.027	0.005	5.452
0.071	0.021	.	4.990
0.064	0.039	0.007	4.196
0.055	0.010	0.005	4.122
0.033	0.010	0.005	3.557
0.014	0.004	0.004	3.155
0.014	0.010	0.002	3.146
0.012	0.002	0.002	3.076
0.015	0.002	.	2.716
0.004	.	.	3.336

Basic Table 34.B. Urban Shanxi Province (4): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.118	.	.	.
1941	0.116	.	.	.
1942	0.111	.	.	.
1943	0.192	.	.	.
1944	0.185	.	.	.
1945	0.306	0.212	.	.
1946	0.242	0.325	.	.
1947	0.275	0.177	.	.
1948	0.265	0.234	.	.
1949	0.119	0.185	.	.
1950	0.329	0.402	0.047	.
1951	0.310	0.168	0.302	.
1952	0.289	0.344	0.266	.
1953	0.399	0.248	0.192	.
1954	0.218	0.356	0.328	.
1955	0.367	0.314	0.268	0.165
1956	0.178	0.295	0.317	0.162
1957	0.439	0.289	0.275	0.155
1958	0.204	0.385	0.282	0.277
1959	0.301	0.218	0.238	0.144
1960	0.278	0.196	0.251	0.192
1961	0.262	0.191	0.118	0.149
1962	0.316	0.326	0.289	0.172
1963	0.368	0.292	0.357	0.232
1964	0.303	0.368	0.167	0.187
1965	0.423	0.156	0.236	0.094
1966	0.313	0.227	0.191	0.044
1967	0.288	0.334	0.241	0.115
1968	0.305	0.284	0.219	0.228
1969	0.495	0.112	0.267	0.141
1970	0.317	0.271	0.087	0.131
1971	0.433	0.221	0.122	0.096
1972	0.507	0.164	0.130	0.099
1973	0.332	0.279	0.134	0.044
1974	0.292	0.182	0.080	0.017
1975	0.297	0.170	0.051	0.052
1976	0.331	0.185	0.074	0.052
1977	0.271	0.210	0.021	0.056
1978	0.338	0.151	0.025	.
1979	0.216	0.125	0.026	0.048
1980	0.333	0.142	0.049	.
1981	0.261	0.071	0.021	.
1982	0.424	0.022	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.942
.	.	.	6.435
.	.	.	4.225
.	.	.	5.094
.	.	.	3.566
.	.	.	5.426
.	.	.	5.616
.	.	.	6.668
.	.	.	5.769
.	.	.	6.973
.	.	.	6.441
.	.	.	5.665
.	.	.	6.632
.	.	.	6.862
.	.	.	5.208
0.047	.	.	5.000
0.046	.	.	3.967
0.199	.	.	6.789
0.064	.	.	6.805
0.205	0.025	.	6.271
0.077	0.024	.	5.047
0.093	0.023	.	4.461
0.103	0.022	0.035	5.694
0.083	0.021	.	5.700
0.051	.	.	5.327
0.078	0.038	.	4.609
0.059	0.074	.	5.026
0.043	.	.	4.717
0.029	.	.	4.087
0.038	.	.	3.043
0.013	.	.	2.919
0.014	.	.	3.283
.	.	.	2.786
.	.	.	2.571
.	.	.	2.072
.	.	.	2.620
.	.	.	1.763
.	.	.	2.230

Basic Table 34.C. Rural Shanxi Province (4): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.175	.	.	.
1941	0.182	.	.	.
1942	0.182	.	.	.
1943	0.170	.	.	.
1944	0.182	.	.	.
1945	0.154	0.207	.	.
1946	0.198	0.257	.	.
1947	0.173	0.230	.	.
1948	0.189	0.178	.	.
1949	0.164	0.262	.	.
1950	0.214	0.260	0.172	.
1951	0.269	0.254	0.196	.
1952	0.257	0.269	0.206	.
1953	0.316	0.248	0.214	.
1954	0.295	0.261	0.230	.
1955	0.299	0.287	0.225	0.234
1956	0.276	0.276	0.224	0.159
1957	0.317	0.336	0.226	0.209
1958	0.277	0.221	0.215	0.165
1959	0.198	0.240	0.242	0.222
1960	0.232	0.245	0.197	0.159
1961	0.209	0.218	0.173	0.152
1962	0.303	0.346	0.312	0.208
1963	0.350	0.327	0.313	0.243
1964	0.330	0.270	0.283	0.221
1965	0.309	0.309	0.278	0.200
1966	0.304	0.240	0.266	0.213
1967	0.296	0.305	0.317	0.202
1968	0.319	0.334	0.300	0.276
1969	0.302	0.319	0.272	0.188
1970	0.348	0.328	0.259	0.186
1971	0.342	0.312	0.259	0.250
1972	0.328	0.286	0.247	0.166
1973	0.324	0.265	0.243	0.151
1974	0.337	0.282	0.215	0.108
1975	0.283	0.248	0.126	0.088
1976	0.303	0.222	0.143	0.097
1977	0.280	0.210	0.101	0.083
1978	0.284	0.164	0.104	0.064
1979	0.312	0.166	0.104	0.041
1980	0.315	0.193	0.077	0.022
1981	0.324	0.143	0.053	0.027
1982	0.351	0.191	0.105	0.041

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.941
•	•	•	4.926
•	•	•	4.387
•	•	•	3.666
•	•	•	4.822
•	•	•	4.617
•	•	•	5.046
•	•	•	5.194
•	•	•	5.386
•	•	•	5.521
•	•	•	6.001
•	•	•	5.355
•	•	•	6.235
•	•	•	5.014
•	•	•	5.254
0.120	•	•	4.938
0.092	•	•	4.371
0.158	•	•	6.871
0.162	•	•	7.225
0.126	0.090	•	6.597
0.170	0.061	0.005	6.662
0.144	0.039	0.013	6.093
0.141	0.037	0.008	6.531
0.151	0.052	0.007	7.193
0.142	0.059	0.013	6.474
0.162	0.058	0.020	6.810
0.131	0.048	0.008	6.754
0.106	0.051	0.003	5.931
0.114	0.031	0.005	5.663
0.078	0.024	•	5.219
0.074	0.045	0.008	4.356
0.063	0.012	0.005	4.226
0.038	0.012	0.005	3.654
0.016	0.005	0.005	3.206
0.016	0.013	0.002	3.272
0.013	0.003	0.002	3.123
0.017	0.003	•	2.832
0.004	•	•	3.463

Basic Table 35.A. Total Inner Mongolia Province (5): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.252	.	.	.
1941	0.271	.	.	.
1942	0.177	.	.	.
1943	0.231	.	.	.
1944	0.179	.	.	.
1945	0.259	0.262	.	.
1946	0.228	0.262	.	.
1947	0.242	0.326	.	.
1948	0.269	0.255	.	.
1949	0.243	0.251	.	.
1950	0.270	0.293	0.227	.
1951	0.292	0.262	0.247	.
1952	0.294	0.312	0.307	.
1953	0.313	0.305	0.294	.
1954	0.337	0.271	0.314	.
1955	0.336	0.369	0.288	0.237
1956	0.406	0.322	0.266	0.242
1957	0.296	0.355	0.364	0.297
1958	0.340	0.308	0.272	0.275
1959	0.309	0.289	0.265	0.164
1960	0.322	0.326	0.286	0.283
1961	0.205	0.220	0.201	0.125
1962	0.363	0.360	0.291	0.227
1963	0.387	0.371	0.340	0.332
1964	0.344	0.344	0.308	0.249
1965	0.340	0.264	0.306	0.248
1966	0.324	0.313	0.215	0.258
1967	0.333	0.252	0.232	0.170
1968	0.402	0.365	0.265	0.248
1969	0.347	0.275	0.256	0.197
1970	0.357	0.336	0.250	0.213
1971	0.345	0.281	0.221	0.188
1972	0.357	0.266	0.193	0.173
1973	0.329	0.233	0.157	0.153
1974	0.421	0.260	0.125	0.104
1975	0.331	0.236	0.118	0.075
1976	0.370	0.201	0.087	0.038
1977	0.337	0.188	0.095	0.046
1978	0.347	0.206	0.077	0.042
1979	0.350	0.193	0.066	0.035
1980	0.341	0.210	0.059	0.024
1981	0.353	0.159	0.061	0.025
1982	0.400	0.199	0.098	0.046

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.309
.	.	.	5.132
.	.	.	6.213
.	.	.	5.303
.	.	.	5.094
.	.	.	5.575
.	.	.	5.698
.	.	.	6.653
.	.	.	6.531
.	.	.	6.574
.	.	.	7.063
.	.	.	7.085
.	.	.	7.641
.	.	.	6.893
.	.	.	5.835
0.153	.	.	7.078
0.109	.	.	4.507
0.225	.	.	7.497
0.173	.	.	8.315
0.145	0.115	0.022	7.634
0.206	0.089	0.028	7.404
0.129	0.059	0.015	6.563
0.152	0.043	0.014	5.983
0.168	0.039	.	7.437
0.173	0.058	0.011	6.591
0.146	0.053	0.005	6.799
0.129	0.030	0.010	6.019
0.099	0.037	0.005	5.643
0.084	0.027	.	4.908
0.076	0.027	0.005	5.097
0.051	0.033	0.010	4.269
0.042	0.016	.	3.764
0.026	0.016	.	3.542
0.009	0.005	0.003	3.451
0.026	0.013	.	3.416
0.009	0.003	.	3.226
0.014	.	0.005	3.093
0.004	.	.	3.737

Basic Table 35.B. Urban Inner Mongolia Province (5): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.199	•	•	•
1941	0.229	•	•	•
1942	0.211	•	•	•
1943	0.218	•	•	•
1944	0.140	•	•	•
1945	0.276	0.199	•	•
1946	0.173	0.143	•	•
1947	0.179	0.211	•	•
1948	0.255	0.152	•	•
1949	0.234	0.260	•	•
1950	0.326	0.257	0.057	•
1951	0.357	0.191	0.257	•
1952	0.307	0.269	0.342	•
1953	0.319	0.282	0.152	•
1954	0.310	0.246	0.360	•
1955	0.350	0.348	0.158	0.170
1956	0.382	0.258	0.225	0.229
1957	0.302	0.327	0.284	0.263
1958	0.342	0.328	0.228	0.261
1959	0.342	0.263	0.172	0.080
1960	0.357	0.282	0.293	0.237
1961	0.189	0.174	0.169	0.069
1962	0.339	0.333	0.228	0.120
1963	0.366	0.335	0.290	0.269
1964	0.295	0.296	0.178	0.074
1965	0.237	0.172	0.137	0.141
1966	0.313	0.230	0.091	0.139
1967	0.306	0.217	0.136	0.079
1968	0.367	0.324	0.157	0.116
1969	0.341	0.192	0.138	0.122
1970	0.319	0.219	0.108	0.068
1971	0.251	0.176	0.118	0.083
1972	0.381	0.215	0.095	0.060
1973	0.272	0.147	0.103	0.050
1974	0.335	0.091	0.031	0.013
1975	0.377	0.133	0.028	0.026
1976	0.259	0.090	0.039	0.006
1977	0.243	0.072	0.016	0.005
1978	0.460	0.124	0.018	0.009
1979	0.194	0.097	•	0.004
1980	0.282	0.113	0.024	•
1981	0.272	0.049	0.006	•
1982	0.423	•	•	0.011

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.581
.	.	.	3.167
.	.	.	4.287
.	.	.	3.729
.	.	.	5.357
.	.	.	4.278
.	.	.	5.658
.	.	.	6.811
.	.	.	5.300
.	.	.	6.794
.	.	.	5.916
.	.	.	6.327
.	.	.	6.927
.	.	.	6.779
.	.	.	4.877
0.142	.	.	6.820
0.172	.	.	4.042
0.079	.	.	5.684
0.174	.	.	7.466
0.080	.	.	4.620
0.099	0.057	.	4.213
.	.	.	3.868
0.045	0.026	.	4.047
0.040	0.022	.	5.129
0.037	.	.	4.156
0.022	.	.	3.681
0.020	.	.	3.238
0.020	.	.	3.857
0.010	.	.	2.908
.	.	0.020	2.453
0.017	.	.	2.899
0.008	.	.	2.013
.	.	.	1.680
.	.	.	3.056
.	.	.	1.479
.	.	.	2.094
.	.	.	1.640
.	.	.	2.170

Basic Table 35.C. Rural Inner Mongolia Province (5): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.263	•	•	•
1941	0.280	•	•	•
1942	0.170	•	•	•
1943	0.235	•	•	•
1944	0.191	•	•	•
1945	0.253	0.275	•	•
1946	0.246	0.286	•	•
1947	0.262	0.352	•	•
1948	0.273	0.284	•	•
1949	0.246	0.248	•	•
1950	0.251	0.304	0.263	•
1951	0.268	0.286	0.245	•
1952	0.289	0.327	0.299	•
1953	0.311	0.313	0.334	•
1954	0.347	0.279	0.299	•
1955	0.331	0.376	0.330	0.251
1956	0.416	0.346	0.280	0.245
1957	0.293	0.365	0.391	0.305
1958	0.340	0.300	0.286	0.278
1959	0.290	0.300	0.295	0.191
1960	0.302	0.345	0.284	0.298
1961	0.215	0.240	0.213	0.143
1962	0.380	0.372	0.316	0.262
1963	0.402	0.389	0.360	0.353
1964	0.381	0.371	0.358	0.307
1965	0.418	0.317	0.378	0.284
1966	0.332	0.367	0.268	0.301
1967	0.350	0.278	0.275	0.206
1968	0.422	0.395	0.319	0.300
1969	0.350	0.337	0.323	0.226
1970	0.373	0.425	0.332	0.275
1971	0.378	0.357	0.289	0.233
1972	0.350	0.298	0.262	0.224
1973	0.343	0.281	0.196	0.203
1974	0.438	0.342	0.195	0.156
1975	0.323	0.279	0.186	0.103
1976	0.389	0.239	0.121	0.059
1977	0.356	0.222	0.146	0.076
1978	0.321	0.227	0.110	0.065
1979	0.390	0.212	0.097	0.057
1980	0.359	0.227	0.073	0.042
1981	0.384	0.179	0.081	0.043
1982	0.390	0.241	0.126	0.068

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.479
.	.	.	5.606
.	.	.	6.693
.	.	.	5.715
.	.	.	5.024
.	.	.	5.932
.	.	.	5.709
.	.	.	6.607
.	.	.	6.903
.	.	.	6.507
.	.	.	7.428
.	.	.	7.332
.	.	.	7.881
.	.	.	6.932
.	.	.	6.183
0.156	.	.	7.175
0.095	.	.	4.689
0.253	.	.	8.243
0.173	.	.	8.678
0.165	0.137	0.025	8.720
0.241	0.096	0.032	8.830
0.171	0.072	0.017	7.647
0.138	0.047	0.016	6.800
0.210	0.043	.	8.446
0.218	0.076	0.013	7.721
0.188	0.070	0.006	8.344
0.169	0.040	0.012	7.392
0.129	0.050	0.006	6.595
0.112	0.036	.	5.859
0.106	0.036	.	6.366
0.066	0.044	0.013	5.075
0.056	0.022	.	4.437
0.038	0.023	.	4.306
0.014	0.007	0.004	3.747
0.041	0.018	.	4.077
0.015	0.004	.	3.596
0.023	.	0.007	3.568
0.008	.	.	4.164

Basic Table 36.A. Total Liaoning Province (6): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.267	.	.	.
1941	0.207	.	.	.
1942	0.204	.	.	.
1943	0.235	.	.	.
1944	0.233	.	.	.
1945	0.234	0.255	.	.
1946	0.247	0.307	.	.
1947	0.315	0.276	.	.
1948	0.232	0.244	.	.
1949	0.314	0.340	.	.
1950	0.286	0.254	0.284	.
1951	0.293	0.322	0.251	.
1952	0.325	0.357	0.258	.
1953	0.302	0.339	0.303	.
1954	0.340	0.361	0.320	.
1955	0.408	0.358	0.337	0.293
1956	0.321	0.311	0.258	0.222
1957	0.416	0.317	0.357	0.315
1958	0.334	0.305	0.274	0.220
1959	0.275	0.284	0.240	0.176
1960	0.319	0.308	0.287	0.211
1961	0.170	0.133	0.131	0.110
1962	0.328	0.329	0.233	0.211
1963	0.474	0.401	0.351	0.336
1964	0.414	0.305	0.243	0.238
1965	0.341	0.318	0.263	0.175
1966	0.411	0.295	0.224	0.190
1967	0.317	0.278	0.189	0.133
1968	0.386	0.348	0.221	0.158
1969	0.362	0.277	0.199	0.118
1970	0.406	0.229	0.198	0.098
1971	0.362	0.264	0.158	0.110
1972	0.321	0.241	0.163	0.077
1973	0.380	0.220	0.147	0.080
1974	0.379	0.208	0.108	0.037
1975	0.321	0.180	0.065	0.034
1976	0.335	0.143	0.056	0.024
1977	0.315	0.134	0.044	0.031
1978	0.404	0.142	0.047	0.017
1979	0.362	0.146	0.039	0.014
1980	0.297	0.110	0.017	0.004
1981	0.312	0.065	0.022	0.003
1982	0.327	0.051	0.016	0.003

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.156
•	•	•	5.025
•	•	•	5.893
•	•	•	4.988
•	•	•	6.872
•	•	•	5.953
•	•	•	6.253
•	•	•	6.763
•	•	•	6.879
•	•	•	7.395
•	•	•	8.067
•	•	•	6.427
•	•	•	8.116
•	•	•	6.524
•	•	•	5.636
0.141	•	•	6.597
0.076	•	•	3.231
0.117	•	•	6.336
0.214	•	•	9.236
0.176	0.073	•	7.240
0.146	0.038	0.004	6.429
0.117	0.040	0.011	6.432
0.099	0.038	0.006	5.301
0.121	0.030	0.003	6.332
0.100	0.027	0.003	5.425
0.055	0.022	•	5.039
0.051	0.012	0.002	4.803
0.032	0.011	•	4.219
0.033	0.016	•	4.380
0.024	0.013	0.002	3.859
0.012	0.006	0.003	3.109
0.004	0.008	•	2.844
0.005	0.001	•	2.653
0.014	•	0.001	3.122
0.007	0.001	•	2.843
•	•	•	2.136
0.007	•	0.001	2.056
0.003	•	•	1.992

Basic Table 36.B. Urban Liaoning Province (6): duration-specific

Birth year of child	0-4	5-9	10-14	15-19
1940	0.264	.	.	.
1941	0.190	.	.	.
1942	0.221	.	.	.
1943	0.214	.	.	.
1944	0.198	.	.	.
1945	0.259	0.224	.	.
1946	0.274	0.301	.	.
1947	0.278	0.260	.	.
1948	0.239	0.210	.	.
1949	0.306	0.329	.	.
1950	0.286	0.259	0.275	.
1951	0.332	0.296	0.232	.
1952	0.319	0.315	0.264	.
1953	0.349	0.335	0.322	.
1954	0.329	0.330	0.299	.
1955	0.417	0.366	0.311	0.275
1956	0.332	0.294	0.259	0.206
1957	0.402	0.325	0.308	0.245
1958	0.362	0.316	0.243	0.197
1959	0.274	0.269	0.198	0.173
1960	0.352	0.261	0.242	0.158
1961	0.210	0.132	0.116	0.075
1962	0.328	0.285	0.198	0.146
1963	0.516	0.362	0.363	0.250
1964	0.476	0.229	0.192	0.135
1965	0.309	0.281	0.191	0.115
1966	0.369	0.182	0.076	0.056
1967	0.312	0.154	0.096	0.046
1968	0.396	0.303	0.159	0.077
1969	0.296	0.206	0.097	0.053
1970	0.417	0.164	0.078	0.026
1971	0.356	0.172	0.085	0.041
1972	0.292	0.156	0.093	0.036
1973	0.372	0.124	0.070	0.016
1974	0.342	0.144	0.019	0.017
1975	0.236	0.087	0.027	0.008
1976	0.267	0.082	0.016	0.004
1977	0.313	0.077	0.038	0.004
1978	0.441	0.092	0.012	0.008
1979	0.269	0.065	0.015	0.004
1980	0.232	0.035	.	.
1981	0.280	0.004	.	.
1982	0.325	.	0.007	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.893
.	.	.	6.213
.	.	.	5.564
.	.	.	4.573
.	.	.	6.817
.	.	.	6.025
.	.	.	6.193
.	.	.	6.568
.	.	.	7.391
.	.	.	7.044
.	.	.	7.985
.	.	.	6.357
.	.	.	7.446
.	.	.	6.476
.	.	.	5.332
0.057	.	.	5.537
0.048	.	.	3.005
0.091	.	.	5.433
0.197	.	.	8.768
0.093	0.043	.	5.837
0.065	0.017	.	4.890
0.060	0.011	0.010	3.819
0.041	0.019	.	3.341
0.043	0.022	.	5.001
0.047	0.008	.	3.538
0.019	.	.	3.524
0.025	.	.	3.394
0.009	.	.	2.933
0.009	0.004	.	2.972
0.003	.	.	2.629
.	.	.	1.791
.	0.003	.	1.862
.	.	.	2.161
0.006	.	.	2.799
.	.	.	1.767
.	.	.	1.334
.	.	.	1.417
.	.	.	1.657

Basic Table 36.C. Rural Liaoning Province (6): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.270	.	.	.
1941	0.219	.	.	.
1942	0.191	.	.	.
1943	0.250	.	.	.
1944	0.258	.	.	.
1945	0.217	0.278	.	.
1946	0.228	0.311	.	.
1947	0.340	0.289	.	.
1948	0.228	0.270	.	.
1949	0.319	0.348	.	.
1950	0.286	0.251	0.290	.
1951	0.264	0.339	0.265	.
1952	0.329	0.386	0.254	.
1953	0.262	0.342	0.290	.
1954	0.350	0.381	0.335	.
1955	0.398	0.352	0.355	0.306
1956	0.312	0.323	0.257	0.234
1957	0.428	0.310	0.391	0.365
1958	0.313	0.295	0.294	0.237
1959	0.276	0.298	0.267	0.178
1960	0.299	0.353	0.318	0.248
1961	0.147	0.134	0.141	0.135
1962	0.328	0.365	0.262	0.255
1963	0.453	0.431	0.339	0.394
1964	0.384	0.359	0.292	0.303
1965	0.356	0.340	0.333	0.217
1966	0.430	0.359	0.353	0.287
1967	0.319	0.343	0.267	0.202
1968	0.381	0.370	0.268	0.228
1969	0.390	0.312	0.271	0.181
1970	0.401	0.259	0.272	0.168
1971	0.365	0.307	0.201	0.170
1972	0.332	0.280	0.199	0.111
1973	0.384	0.264	0.184	0.130
1974	0.391	0.236	0.151	0.051
1975	0.349	0.221	0.083	0.051
1976	0.360	0.168	0.074	0.035
1977	0.316	0.157	0.047	0.045
1978	0.385	0.160	0.063	0.021
1979	0.416	0.173	0.049	0.018
1980	0.338	0.135	0.024	0.006
1981	0.336	0.088	0.032	0.004
1982	0.328	0.075	0.019	0.004

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.335
.	.	.	5.898
.	.	.	6.112
.	.	.	5.265
.	.	.	6.908
.	.	.	5.904
.	.	.	6.295
.	.	.	6.900
.	.	.	6.509
.	.	.	7.655
.	.	.	8.128
.	.	.	6.480
.	.	.	8.610
.	.	.	6.560
.	.	.	5.859
0.200	.	.	7.360
0.096	.	.	3.391
0.136	.	.	6.960
0.227	.	.	9.553
0.237	0.093	.	8.344
0.203	0.053	0.007	7.547
0.156	0.061	0.012	8.297
0.139	0.052	0.010	6.658
0.173	0.036	0.004	7.306
0.133	0.040	0.004	6.659
0.080	0.037	.	6.085
0.071	0.021	0.004	5.691
0.050	0.018	.	4.952
0.054	0.024	.	5.199
0.044	0.022	0.003	4.493
0.023	0.011	0.006	3.714
0.008	0.011	.	3.282
0.010	0.002	.	2.882
0.020	.	0.002	3.253
0.012	0.003	.	3.354
.	.	.	2.513
0.012	.	0.002	2.370
0.004	.	.	2.151

Basic Table 37.A. Total Jilin Province (7): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.248	.	.	.
1941	0.280	.	.	.
1942	0.270	.	.	.
1943	0.328	.	.	.
1944	0.249	.	.	.
1945	0.259	0.271	.	.
1946	0.305	0.290	.	.
1947	0.257	0.325	.	.
1948	0.294	0.286	.	.
1949	0.291	0.300	.	.
1950	0.316	0.355	0.288	.
1951	0.280	0.281	0.300	.
1952	0.383	0.282	0.288	.
1953	0.323	0.333	0.320	.
1954	0.323	0.376	0.300	.
1955	0.410	0.293	0.309	0.225
1956	0.308	0.355	0.305	0.249
1957	0.345	0.287	0.319	0.288
1958	0.376	0.370	0.311	0.194
1959	0.334	0.283	0.234	0.217
1960	0.332	0.354	0.296	0.248
1961	0.247	0.250	0.195	0.186
1962	0.337	0.354	0.314	0.251
1963	0.401	0.393	0.340	0.368
1964	0.376	0.395	0.296	0.193
1965	0.375	0.340	0.322	0.251
1966	0.379	0.267	0.265	0.252
1967	0.342	0.312	0.279	0.208
1968	0.448	0.349	0.283	0.224
1969	0.343	0.318	0.316	0.193
1970	0.427	0.361	0.242	0.213
1971	0.355	0.335	0.249	0.181
1972	0.381	0.298	0.236	0.159
1973	0.359	0.278	0.152	0.103
1974	0.382	0.226	0.121	0.066
1975	0.313	0.158	0.100	0.044
1976	0.367	0.171	0.066	0.028
1977	0.314	0.140	0.080	0.034
1978	0.396	0.163	0.056	0.020
1979	0.386	0.197	0.079	0.019
1980	0.267	0.136	0.026	0.020
1981	0.333	0.078	0.024	0.011
1982	0.313	0.064	0.024	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.540
.	.	.	6.004
.	.	.	6.321
.	.	.	5.875
.	.	.	6.118
.	.	.	6.957
.	.	.	6.247
.	.	.	6.561
.	.	.	7.264
.	.	.	7.247
.	.	.	7.056
.	.	.	7.050
.	.	.	7.157
.	.	.	7.141
.	.	.	6.107
0.150	.	.	7.143
0.117	.	.	5.194
0.160	.	.	7.267
0.219	.	.	8.951
0.158	0.068	0.032	7.592
0.156	0.052	0.025	7.606
0.193	0.051	.	7.031
0.152	0.037	.	6.647
0.162	0.050	.	7.587
0.142	0.043	.	6.772
0.130	0.046	.	7.098
0.088	0.028	.	6.182
0.107	0.040	.	6.106
0.080	0.031	0.004	5.037
0.041	0.015	.	4.258
0.019	0.010	.	3.218
0.020	0.018	0.004	3.367
0.022	0.003	0.003	2.981
0.012	.	0.003	3.248
0.008	0.005	0.003	3.486
0.003	0.005	.	2.287
0.003	.	.	2.244
.	0.005	.	2.033

Basic Table 37.B. Urban Jilin Province (7): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.264	.	.	.
1941	0.268	.	.	.
1942	0.342	.	.	.
1943	0.248	.	.	.
1944	0.291	.	.	.
1945	0.246	0.363	.	.
1946	0.310	0.365	.	.
1947	0.222	0.282	.	.
1948	0.256	0.301	.	.
1949	0.341	0.257	.	.
1950	0.294	0.193	0.330	.
1951	0.300	0.345	0.195	.
1952	0.344	0.273	0.282	.
1953	0.261	0.400	0.230	.
1954	0.364	0.463	0.377	.
1955	0.401	0.192	0.211	0.231
1956	0.324	0.382	0.310	0.170
1957	0.326	0.289	0.256	0.222
1958	0.422	0.380	0.288	0.248
1959	0.291	0.273	0.123	0.171
1960	0.338	0.299	0.281	0.140
1961	0.138	0.216	0.232	0.086
1962	0.374	0.425	0.331	0.205
1963	0.398	0.324	0.368	0.352
1964	0.365	0.432	0.202	0.218
1965	0.374	0.293	0.289	0.115
1966	0.326	0.173	0.141	0.123
1967	0.298	0.272	0.121	0.096
1968	0.406	0.317	0.170	0.071
1969	0.356	0.311	0.160	0.101
1970	0.432	0.314	0.151	0.075
1971	0.332	0.300	0.181	0.083
1972	0.345	0.255	0.161	0.068
1973	0.397	0.171	0.081	0.032
1974	0.289	0.155	0.074	0.019
1975	0.312	0.121	0.047	0.036
1976	0.333	0.144	0.065	0.009
1977	0.384	0.114	0.043	0.034
1978	0.428	0.074	0.012	.
1979	0.269	0.065	0.021	0.007
1980	0.184	0.052	0.009	.
1981	0.300	0.030	.	.
1982	0.334	.	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	7.071
.	.	.	7.428
.	.	.	5.647
.	.	.	6.119
.	.	.	5.838
.	.	.	6.005
.	.	.	6.104
.	.	.	6.501
.	.	.	6.681
.	.	.	9.027
.	.	.	5.949
.	.	.	6.932
.	.	.	6.383
.	.	.	7.768
.	.	.	4.961
0.132	.	.	6.186
0.122	.	.	4.151
0.060	.	.	7.231
0.177	.	.	8.434
0.086	0.122	.	7.127
0.105	0.033	.	6.052
0.034	0.024	.	4.107
0.085	0.020	.	4.466
0.096	0.018	.	5.388
0.082	.	.	5.049
0.026	.	.	4.986
0.014	0.034	.	4.724
0.041	.	.	4.355
0.024	.	.	3.524
.	.	.	2.687
.	.	.	2.575
.	0.041	.	2.959
.	.	.	2.875
.	.	.	2.567
.	.	.	1.807
.	.	.	1.226
.	.	.	1.650
.	.	.	1.669

Basic Table 37.C. Rural Jilin Province (7): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.245	.	.	.
1941	0.283	.	.	.
1942	0.248	.	.	.
1943	0.353	.	.	.
1944	0.236	.	.	.
1945	0.263	0.252	.	.
1946	0.304	0.270	.	.
1947	0.265	0.337	.	.
1948	0.302	0.282	.	.
1949	0.279	0.313	.	.
1950	0.321	0.400	0.280	.
1951	0.275	0.265	0.328	.
1952	0.392	0.284	0.290	.
1953	0.342	0.343	0.348	.
1954	0.308	0.356	0.277	.
1955	0.414	0.318	0.336	0.224
1956	0.301	0.349	0.304	0.270
1957	0.353	0.287	0.333	0.308
1958	0.357	0.367	0.316	0.177
1959	0.351	0.286	0.260	0.231
1960	0.330	0.377	0.300	0.278
1961	0.292	0.264	0.186	0.212
1962	0.322	0.321	0.310	0.261
1963	0.403	0.423	0.331	0.371
1964	0.382	0.380	0.331	0.187
1965	0.375	0.359	0.336	0.284
1966	0.405	0.306	0.320	0.282
1967	0.365	0.329	0.353	0.235
1968	0.470	0.363	0.332	0.270
1969	0.336	0.321	0.377	0.227
1970	0.425	0.385	0.279	0.268
1971	0.365	0.353	0.277	0.224
1972	0.397	0.320	0.267	0.202
1973	0.343	0.334	0.183	0.133
1974	0.420	0.262	0.143	0.084
1975	0.313	0.175	0.127	0.047
1976	0.383	0.183	0.066	0.036
1977	0.284	0.152	0.098	0.035
1978	0.382	0.200	0.079	0.029
1979	0.435	0.251	0.108	0.025
1980	0.301	0.172	0.033	0.030
1981	0.345	0.100	0.035	0.016
1982	0.305	0.092	0.035	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.166
.	.	.	5.650
.	.	.	6.483
.	.	.	5.816
.	.	.	6.186
.	.	.	7.190
.	.	.	6.281
.	.	.	6.700
.	.	.	7.417
.	.	.	6.750
.	.	.	7.372
.	.	.	7.085
.	.	.	7.390
.	.	.	6.952
.	.	.	6.455
0.154	.	.	7.441
0.116	.	.	5.527
0.189	.	.	7.279
0.232	.	.	9.122
0.180	0.057	0.038	7.775
0.171	0.056	0.031	8.052
0.234	0.058	.	8.021
0.167	0.041	.	7.451
0.177	0.061	.	8.367
0.156	0.056	.	7.362
0.156	0.058	.	7.859
0.106	0.026	.	6.757
0.123	0.049	.	6.789
0.097	0.038	0.006	5.671
0.056	0.019	.	4.919
0.026	0.012	.	3.504
0.029	0.013	0.004	3.367
0.032	0.003	0.004	3.040
0.017	.	0.003	3.552
0.011	0.007	0.003	4.202
0.004	0.007	.	2.735
0.004	.	.	2.502
.	0.007	.	2.200

Basic Table 38.A. Total Heilongjiang Province (8): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.246	•	•	•
1941	0.265	•	•	•
1942	0.292	•	•	•
1943	0.264	•	•	•
1944	0.260	•	•	•
1945	0.298	0.246	•	•
1946	0.254	0.265	•	•
1947	0.300	0.305	•	•
1948	0.274	0.275	•	•
1949	0.313	0.330	•	•
1950	0.328	0.310	0.297	•
1951	0.279	0.301	0.275	•
1952	0.321	0.337	0.327	•
1953	0.329	0.262	0.258	•
1954	0.314	0.313	0.341	•
1955	0.340	0.358	0.266	0.199
1956	0.325	0.334	0.265	0.268
1957	0.354	0.359	0.314	0.264
1958	0.365	0.333	0.285	0.188
1959	0.338	0.292	0.222	0.228
1960	0.320	0.305	0.341	0.212
1961	0.269	0.247	0.203	0.171
1962	0.317	0.327	0.300	0.246
1963	0.413	0.379	0.282	0.285
1964	0.329	0.330	0.299	0.204
1965	0.349	0.294	0.281	0.223
1966	0.356	0.291	0.253	0.255
1967	0.359	0.317	0.235	0.167
1968	0.383	0.389	0.294	0.202
1969	0.337	0.281	0.268	0.178
1970	0.423	0.280	0.207	0.182
1971	0.350	0.313	0.215	0.151
1972	0.375	0.326	0.214	0.185
1973	0.376	0.293	0.236	0.134
1974	0.383	0.272	0.149	0.113
1975	0.377	0.227	0.113	0.063
1976	0.339	0.178	0.087	0.037
1977	0.332	0.166	0.077	0.028
1978	0.375	0.165	0.080	0.027
1979	0.385	0.222	0.082	0.017
1980	0.346	0.130	0.052	0.008
1981	0.348	0.120	0.029	0.014
1982	0.394	0.133	0.040	0.009

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.322
.	.	.	5.377
.	.	.	6.202
.	.	.	5.665
.	.	.	6.673
.	.	.	6.811
.	.	.	6.202
.	.	.	7.162
.	.	.	6.024
.	.	.	7.095
.	.	.	6.702
.	.	.	6.999
.	.	.	7.469
.	.	.	6.724
.	.	.	6.216
0.221	.	.	7.290
0.094	.	.	5.089
0.184	.	.	7.146
0.177	.	.	7.888
0.152	0.100	0.010	7.118
0.154	0.036	.	6.688
0.137	0.057	0.006	6.773
0.123	0.060	.	6.306
0.161	0.032	0.004	7.329
0.095	0.047	0.008	6.074
0.123	0.029	0.007	6.253
0.102	0.037	.	5.842
0.094	0.031	0.006	6.155
0.072	0.029	.	5.695
0.056	0.016	.	4.940
0.034	0.011	.	4.125
0.025	0.015	.	3.403
0.020	0.010	.	3.159
0.024	0.008	.	3.395
0.017	0.006	0.007	3.679
0.010	0.002	.	2.739
0.006	.	.	2.587
0.013	.	.	2.946

Basic Table 38.B. Urban Heilongjiang Province (8): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.311	.	.	.
1941	0.212	.	.	.
1942	0.220	.	.	.
1943	0.245	.	.	.
1944	0.251	.	.	.
1945	0.282	0.269	.	.
1946	0.203	0.252	.	.
1947	0.296	0.187	.	.
1948	0.279	0.352	.	.
1949	0.268	0.242	.	.
1950	0.300	0.315	0.425	.
1951	0.267	0.261	0.265	.
1952	0.284	0.277	0.319	.
1953	0.331	0.250	0.313	.
1954	0.267	0.326	0.385	.
1955	0.324	0.388	0.199	0.241
1956	0.307	0.324	0.276	0.371
1957	0.342	0.312	0.347	0.209
1958	0.393	0.362	0.290	0.225
1959	0.305	0.256	0.189	0.179
1960	0.308	0.263	0.321	0.166
1961	0.256	0.253	0.211	0.116
1962	0.298	0.288	0.342	0.206
1963	0.502	0.393	0.336	0.221
1964	0.309	0.297	0.294	0.137
1965	0.340	0.296	0.197	0.140
1966	0.323	0.206	0.166	0.113
1967	0.304	0.272	0.139	0.142
1968	0.361	0.309	0.212	0.116
1969	0.305	0.205	0.180	0.114
1970	0.423	0.259	0.156	0.091
1971	0.314	0.202	0.144	0.078
1972	0.343	0.233	0.145	0.072
1973	0.415	0.188	0.193	0.065
1974	0.323	0.232	0.083	0.059
1975	0.308	0.131	0.062	0.029
1976	0.318	0.118	0.035	0.017
1977	0.341	0.146	0.051	0.021
1978	0.376	0.120	0.041	0.004
1979	0.344	0.124	0.077	.
1980	0.326	0.073	0.009	.
1981	0.296	0.042	.	0.005
1982	0.352	0.034	0.031	.

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.736
.	.	.	5.070
.	.	.	4.486
.	.	.	7.059
.	.	.	5.233
.	.	.	7.888
.	.	.	5.867
.	.	.	6.553
.	.	.	6.509
.	.	.	7.465
.	.	.	6.734
.	.	.	7.576
.	.	.	7.198
.	.	.	7.389
.	.	.	5.389
0.227	.	.	6.709
0.106	.	.	4.898
0.176	.	.	6.833
0.117	.	.	8.126
0.072	0.099	.	6.037
0.141	0.042	.	5.781
0.080	.	.	4.440
0.058	0.055	.	4.855
0.104	0.020	.	5.607
0.016	0.018	0.017	4.269
0.057	0.008	.	4.971
0.057	0.007	.	4.009
0.037	0.013	.	4.215
0.021	.	.	4.408
0.033	.	.	3.646
.	0.005	.	2.675
0.024	0.010	.	2.611
0.004	0.005	.	2.842
0.013	.	.	2.770
.	.	0.005	2.752
.	.	.	2.038
0.004	.	.	1.735
.	.	.	2.091

Basic Table 38.C. Rural Heilongjiang Province (8): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.224	•	•	•
1941	0.283	•	•	•
1942	0.322	•	•	•
1943	0.272	•	•	•
1944	0.263	•	•	•
1945	0.304	0.238	•	•
1946	0.277	0.269	•	•
1947	0.301	0.353	•	•
1948	0.271	0.243	•	•
1949	0.336	0.367	•	•
1950	0.344	0.308	0.253	•
1951	0.285	0.320	0.278	•
1952	0.342	0.365	0.330	•
1953	0.328	0.268	0.235	•
1954	0.344	0.306	0.322	•
1955	0.350	0.341	0.294	0.185
1956	0.336	0.340	0.260	0.233
1957	0.362	0.375	0.298	0.286
1958	0.347	0.315	0.283	0.173
1959	0.359	0.316	0.239	0.248
1960	0.328	0.333	0.352	0.232
1961	0.277	0.244	0.198	0.197
1962	0.329	0.353	0.275	0.265
1963	0.361	0.370	0.248	0.317
1964	0.340	0.351	0.302	0.239
1965	0.354	0.293	0.337	0.268
1966	0.371	0.346	0.308	0.335
1967	0.381	0.346	0.297	0.181
1968	0.390	0.436	0.347	0.258
1969	0.348	0.323	0.326	0.220
1970	0.423	0.290	0.239	0.242
1971	0.361	0.364	0.261	0.197
1972	0.385	0.364	0.257	0.259
1973	0.363	0.330	0.261	0.178
1974	0.402	0.285	0.185	0.148
1975	0.398	0.257	0.138	0.086
1976	0.345	0.198	0.110	0.051
1977	0.329	0.173	0.088	0.032
1978	0.375	0.179	0.094	0.040
1979	0.397	0.254	0.083	0.026
1980	0.353	0.148	0.066	0.012
1981	0.371	0.144	0.038	0.018
1982	0.415	0.162	0.043	0.012

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.165
.	.	.	5.499
.	.	.	6.903
.	.	.	5.076
.	.	.	7.294
.	.	.	6.336
.	.	.	6.354
.	.	.	7.442
.	.	.	5.791
.	.	.	6.916
.	.	.	6.687
.	.	.	6.712
.	.	.	7.607
.	.	.	6.379
.	.	.	6.649
0.219	.	.	7.599
0.090	.	.	5.190
0.188	.	.	7.312
0.202	.	.	7.761
0.185	0.101	0.014	7.654
0.159	0.034	.	7.226
0.163	0.076	0.008	8.037
0.154	0.063	.	7.108
0.189	0.037	0.006	8.316
0.136	0.059	0.005	7.085
0.159	0.038	0.010	7.013
0.128	0.050	.	6.809
0.127	0.039	0.009	7.204
0.104	0.043	.	6.393
0.071	0.024	.	5.579
0.057	0.014	.	4.753
0.025	0.017	.	3.729
0.029	0.012	.	3.315
0.031	0.013	.	3.662
0.027	0.011	0.003	4.037
0.016	0.003	.	2.990
0.008	.	.	2.894
0.022	.	.	3.269

Basic Table 39.A. Total Shanghai Province (9): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.254	•	•	•
1941	0.270	•	•	•
1942	0.273	•	•	•
1943	0.230	•	•	•
1944	0.308	•	•	•
1945	0.288	0.244	•	•
1946	0.360	0.256	•	•
1947	0.326	0.310	•	•
1948	0.339	0.284	•	•
1949	0.349	0.293	•	•
1950	0.353	0.300	0.215	•
1951	0.275	0.281	0.224	•
1952	0.348	0.348	0.227	•
1953	0.331	0.289	0.226	•
1954	0.407	0.349	0.252	•
1955	0.361	0.298	0.243	0.191
1956	0.359	0.216	0.169	0.142
1957	0.367	0.360	0.283	0.219
1958	0.356	0.218	0.225	0.092
1959	0.290	0.245	0.098	0.078
1960	0.255	0.186	0.116	0.053
1961	0.303	0.184	0.114	0.060
1962	0.311	0.223	0.098	0.116
1963	0.374	0.274	0.126	0.108
1964	0.354	0.138	0.077	0.031
1965	0.295	0.160	0.089	0.043
1966	0.316	0.192	0.103	0.064
1967	0.321	0.118	0.032	0.024
1968	0.437	0.187	0.108	0.035
1969	0.347	0.142	0.072	0.024
1970	0.366	0.137	0.034	0.017
1971	0.345	0.080	0.037	0.010
1972	0.219	0.113	0.017	0.013
1973	0.280	0.115	0.004	0.020
1974	0.257	0.082	0.021	•
1975	0.266	0.062	0.013	•
1976	0.312	0.071	0.019	•
1977	0.283	0.063	0.024	0.004
1978	0.300	0.066	0.022	•
1979	0.297	0.074	0.014	•
1980	0.209	0.043	0.003	•
1981	0.268	0.019	0.003	•
1982	0.246	0.006	0.006	•

rates, 1940–82

20–24	25–29	30 +	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.315
•	•	•	5.891
•	•	•	6.557
•	•	•	6.207
•	•	•	6.444
•	•	•	6.127
•	•	•	5.692
•	•	•	6.599
•	•	•	6.062
•	•	•	7.104
•	•	•	6.311
•	•	•	5.074
•	•	•	7.120
•	•	•	5.068
•	•	•	3.980
0.054	•	•	3.426
0.023	•	•	3.485
0.045	•	•	4.052
0.073	•	•	4.887
0.011	0.023	•	3.166
0.042	0.010	•	3.193
0.011	0.005	•	3.461
0.007	0.004	•	2.534
0.007	0.004	•	3.891
•	•	•	2.925
0.006	•	•	2.797
0.003	•	•	2.373
0.006	•	•	1.841
0.003	•	•	2.112
•	•	•	1.799
0.003	•	•	1.725
•	•	•	2.008
•	•	•	1.870
•	•	•	1.938
•	•	•	1.924
0.004	•	•	1.298
•	•	•	1.449
•	•	•	1.288

Basic Table 39.B. Urban Shanghai Province (9): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.289	.	.	.
1941	0.244	.	.	.
1942	0.280	.	.	.
1943	0.255	.	.	.
1944	0.317	.	.	.
1945	0.289	0.229	.	.
1946	0.370	0.232	.	.
1947	0.329	0.319	.	.
1948	0.371	0.265	.	.
1949	0.362	0.317	.	.
1950	0.362	0.295	0.195	.
1951	0.320	0.298	0.219	.
1952	0.356	0.329	0.224	.
1953	0.359	0.333	0.223	.
1954	0.414	0.331	0.226	.
1955	0.393	0.316	0.213	0.161
1956	0.409	0.211	0.182	0.128
1957	0.348	0.351	0.250	0.196
1958	0.401	0.198	0.212	0.080
1959	0.323	0.222	0.057	0.043
1960	0.263	0.194	0.129	0.027
1961	0.329	0.185	0.110	0.044
1962	0.316	0.194	0.054	0.052
1963	0.324	0.223	0.069	0.039
1964	0.305	0.087	0.030	0.009
1965	0.227	0.107	0.030	0.008
1966	0.275	0.100	0.015	0.013
1967	0.326	0.070	0.005	0.009
1968	0.373	0.144	0.061	0.005
1969	0.315	0.081	0.031	0.010
1970	0.297	0.076	0.027	0.005
1971	0.282	0.041	0.022	0.015
1972	0.162	0.070	0.012	0.005
1973	0.205	0.104	0.006	0.010
1974	0.225	0.066	0.007	.
1975	0.228	0.044	0.008	.
1976	0.248	0.028	.	.
1977	0.211	0.042	0.039	0.006
1978	0.260	0.045	0.028	.
1979	0.196	0.059	0.011	.
1980	0.200	0.017	0.005	.
1981	0.243	.	0.005	.
1982	0.254	.	0.009	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.125
.	.	.	5.577
.	.	.	6.777
.	.	.	6.124
.	.	.	6.914
.	.	.	6.000
.	.	.	6.036
.	.	.	6.506
.	.	.	6.546
.	.	.	6.836
.	.	.	6.227
.	.	.	5.262
.	.	.	6.665
.	.	.	5.020
.	.	.	3.577
0.034	.	.	3.331
0.024	.	.	3.551
0.022	.	.	3.272
0.027	.	.	3.495
.	0.008	.	2.190
.	.	.	1.865
.	.	.	2.016
.	.	.	2.051
.	.	.	2.913
.	.	.	2.184
.	.	.	2.023
.	.	.	1.798
0.005	.	.	1.265
.	.	.	1.625
.	.	.	1.489
.	.	.	1.397
.	.	.	1.380
.	.	.	1.487
.	.	.	1.664
.	.	.	1.328
0.005	.	.	1.132
.	.	.	1.238
.	.	.	1.315

Basic Table 39.C. Rural Shanghai Province (9): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.161	.	.	.
1941	0.346	.	.	.
1942	0.253	.	.	.
1943	0.166	.	.	.
1944	0.287	.	.	.
1945	0.286	0.287	.	.
1946	0.339	0.328	.	.
1947	0.321	0.285	.	.
1948	0.266	0.333	.	.
1949	0.320	0.239	.	.
1950	0.333	0.311	0.269	.
1951	0.172	0.245	0.237	.
1952	0.332	0.393	0.237	.
1953	0.271	0.189	0.236	.
1954	0.392	0.393	0.311	.
1955	0.289	0.257	0.311	0.269
1956	0.260	0.229	0.140	0.182
1957	0.402	0.379	0.357	0.285
1958	0.265	0.261	0.255	0.125
1959	0.210	0.297	0.196	0.155
1960	0.236	0.167	0.086	0.112
1961	0.230	0.183	0.124	0.093
1962	0.296	0.280	0.190	0.262
1963	0.473	0.377	0.251	0.266
1964	0.432	0.260	0.180	0.083
1965	0.390	0.288	0.222	0.124
1966	0.374	0.444	0.279	0.181
1967	0.314	0.237	0.084	0.057
1968	0.552	0.272	0.204	0.100
1969	0.406	0.237	0.173	0.053
1970	0.488	0.221	0.052	0.044
1971	0.445	0.136	0.077	.
1972	0.302	0.181	0.030	0.028
1973	0.379	0.135	.	0.041
1974	0.301	0.109	0.043	.
1975	0.313	0.096	0.021	.
1976	0.390	0.141	0.045	.
1977	0.368	0.094	.	.
1978	0.343	0.093	0.012	.
1979	0.397	0.093	0.020	.
1980	0.220	0.077	.	.
1981	0.301	0.042	.	.
1982	0.235	0.013	.	.

fertility rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.817
•	•	•	6.711
•	•	•	5.966
•	•	•	6.421
•	•	•	5.259
•	•	•	6.444
•	•	•	4.839
•	•	•	6.830
•	•	•	4.868
•	•	•	7.753
•	•	•	6.515
•	•	•	4.635
•	•	•	8.178
•	•	•	5.181
•	•	•	4.953
0.108	•	•	3.657
0.018	•	•	3.328
0.111	•	•	5.887
0.194	•	•	8.068
0.036	0.066	•	5.279
0.137	0.036	•	5.982
0.035	0.018	•	6.659
0.024	0.016	•	3.660
0.022	0.014	•	5.820
•	•	•	4.346
0.019	•	•	4.126
0.010	•	•	3.336
0.009	•	•	2.751
0.010	•	•	2.826
•	•	•	2.266
0.011	•	•	2.206
•	•	•	2.879
•	•	•	2.307
•	•	•	2.240
•	•	•	2.552
•	•	•	1.481
•	•	•	1.714
•	•	•	1.240

Basic Table 40.A. Total Jiangsu Province (10): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.285	•	•	•
1941	0.293	•	•	•
1942	0.238	•	•	•
1943	0.308	•	•	•
1944	0.285	•	•	•
1945	0.277	0.258	•	•
1946	0.282	0.257	•	•
1947	0.292	0.298	•	•
1948	0.269	0.258	•	•
1949	0.308	0.273	•	•
1950	0.270	0.256	0.210	•
1951	0.280	0.272	0.223	•
1952	0.336	0.277	0.278	•
1953	0.309	0.269	0.239	•
1954	0.309	0.345	0.235	•
1955	0.335	0.323	0.233	0.189
1956	0.318	0.266	0.240	0.176
1957	0.342	0.327	0.252	0.203
1958	0.267	0.267	0.230	0.164
1959	0.236	0.207	0.170	0.134
1960	0.206	0.217	0.172	0.122
1961	0.195	0.184	0.150	0.098
1962	0.311	0.303	0.262	0.189
1963	0.381	0.355	0.310	0.243
1964	0.347	0.286	0.242	0.157
1965	0.368	0.302	0.230	0.172
1966	0.391	0.306	0.257	0.179
1967	0.325	0.280	0.186	0.131
1968	0.402	0.346	0.209	0.148
1969	0.363	0.274	0.193	0.133
1970	0.403	0.256	0.173	0.135
1971	0.384	0.225	0.164	0.100
1972	0.348	0.179	0.100	0.074
1973	0.321	0.187	0.080	0.049
1974	0.369	0.156	0.072	0.036
1975	0.342	0.154	0.049	0.038
1976	0.364	0.138	0.047	0.026
1977	0.340	0.114	0.046	0.024
1978	0.321	0.120	0.040	0.020
1979	0.321	0.108	0.036	0.012
1980	0.250	0.071	0.016	0.006
1981	0.330	0.077	0.013	0.004
1982	0.272	0.073	0.012	0.007

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.355
.	.	.	5.368
.	.	.	6.048
.	.	.	5.323
.	.	.	5.762
.	.	.	5.216
.	.	.	5.497
.	.	.	6.297
.	.	.	5.747
.	.	.	6.331
.	.	.	6.185
.	.	.	5.717
.	.	.	6.441
.	.	.	5.336
.	.	.	4.272
0.059	.	.	3.997
0.069	.	.	3.592
0.111	.	.	6.065
0.122	.	.	7.294
0.092	0.036	0.005	5.820
0.097	0.026	0.003	5.994
0.098	0.022	0.005	6.288
0.059	0.024	.	5.022
0.082	0.018	.	6.031
0.077	0.014	0.002	5.290
0.069	0.009	.	5.230
0.056	0.012	0.002	4.710
0.045	0.012	.	3.787
0.029	0.007	0.001	3.363
0.021	0.009	.	3.315
0.013	0.005	.	3.013
0.013	0.005	0.001	2.966
0.009	0.002	.	2.672
0.003	0.003	.	2.535
0.003	0.001	0.001	2.406
0.002	0.001	.	1.725
0.002	0.001	.	2.129
0.003	.	0.003	1.850

Basic Table 40.B. Urban Jiangsu Province (10): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.286	•	•	•
1941	0.314	•	•	•
1942	0.235	•	•	•
1943	0.279	•	•	•
1944	0.321	•	•	•
1945	0.279	0.222	•	•
1946	0.270	0.244	•	•
1947	0.340	0.285	•	•
1948	0.271	0.249	•	•
1949	0.307	0.338	•	•
1950	0.328	0.285	0.186	•
1951	0.346	0.208	0.224	•
1952	0.346	0.271	0.260	•
1953	0.285	0.241	0.158	•
1954	0.364	0.415	0.212	•
1955	0.325	0.323	0.162	0.150
1956	0.364	0.245	0.191	0.179
1957	0.420	0.326	0.223	0.149
1958	0.301	0.264	0.216	0.139
1959	0.337	0.303	0.165	0.126
1960	0.285	0.266	0.181	0.106
1961	0.275	0.218	0.190	0.124
1962	0.363	0.276	0.170	0.128
1963	0.421	0.329	0.310	0.172
1964	0.345	0.245	0.144	0.061
1965	0.356	0.170	0.118	0.044
1966	0.330	0.174	0.113	0.045
1967	0.260	0.199	0.081	0.030
1968	0.407	0.210	0.056	0.025
1969	0.311	0.177	0.056	0.021
1970	0.380	0.186	0.074	0.015
1971	0.364	0.117	0.057	0.028
1972	0.292	0.096	0.039	0.014
1973	0.311	0.140	0.024	0.004
1974	0.291	0.081	0.044	•
1975	0.385	0.092	0.028	0.017
1976	0.312	0.084	0.020	•
1977	0.310	0.084	0.004	0.004
1978	0.266	0.068	0.008	•
1979	0.247	0.103	0.019	0.004
1980	0.186	0.040	0.003	•
1981	0.365	0.041	0.003	•
1982	0.229	0.014	•	•

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.970
.	.	.	5.268
.	.	.	6.285
.	.	.	5.352
.	.	.	6.977
.	.	.	5.668
.	.	.	5.451
.	.	.	6.298
.	.	.	4.832
.	.	.	7.169
.	.	.	5.540
.	.	.	5.634
.	.	.	6.401
.	.	.	5.330
.	.	.	5.342
0.064	.	.	4.675
0.083	.	.	4.615
0.037	.	.	5.023
0.067	.	.	6.716
0.052	0.026	.	4.365
0.039	0.021	.	3.744
0.017	0.006	.	3.428
0.005	.	.	2.879
0.025	.	.	3.617
0.009	.	.	2.868
0.015	.	.	3.350
0.005	0.006	.	2.881
0.005	.	.	2.231
.	.	.	2.394
.	.	.	2.084
.	.	.	2.606
.	.	.	2.082
.	.	.	2.012
.	.	.	1.714
.	.	.	1.865
.	.	.	1.145
.	.	.	2.047
.	.	.	1.215

Basic Table 40.C. Rural Jiangsu Province (10): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.285	•	•	•
1941	0.289	•	•	•
1942	0.239	•	•	•
1943	0.314	•	•	•
1944	0.279	•	•	•
1945	0.277	0.264	•	•
1946	0.284	0.259	•	•
1947	0.284	0.300	•	•
1948	0.268	0.260	•	•
1949	0.309	0.261	•	•
1950	0.259	0.251	0.215	•
1951	0.268	0.283	0.223	•
1952	0.334	0.278	0.282	•
1953	0.313	0.274	0.253	•
1954	0.300	0.330	0.239	•
1955	0.337	0.323	0.246	0.196
1956	0.309	0.270	0.249	0.176
1957	0.327	0.328	0.257	0.213
1958	0.260	0.268	0.232	0.169
1959	0.213	0.191	0.171	0.136
1960	0.188	0.208	0.170	0.124
1961	0.177	0.177	0.143	0.094
1962	0.299	0.308	0.279	0.200
1963	0.373	0.361	0.310	0.257
1964	0.347	0.295	0.259	0.176
1965	0.370	0.332	0.250	0.195
1966	0.403	0.337	0.283	0.203
1967	0.337	0.298	0.206	0.149
1968	0.401	0.374	0.243	0.170
1969	0.374	0.293	0.224	0.153
1970	0.408	0.269	0.196	0.156
1971	0.388	0.246	0.188	0.113
1972	0.359	0.195	0.113	0.085
1973	0.323	0.195	0.091	0.059
1974	0.384	0.170	0.077	0.044
1975	0.335	0.167	0.053	0.043
1976	0.373	0.148	0.052	0.032
1977	0.345	0.119	0.053	0.028
1978	0.330	0.130	0.046	0.024
1979	0.332	0.109	0.039	0.013
1980	0.261	0.076	0.018	0.007
1981	0.323	0.083	0.015	0.005
1982	0.281	0.083	0.014	0.008

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.423
.	.	.	5.386
.	.	.	6.006
.	.	.	5.318
.	.	.	5.541
.	.	.	5.134
.	.	.	5.505
.	.	.	6.297
.	.	.	5.910
.	.	.	6.181
.	.	.	6.301
.	.	.	5.732
.	.	.	6.448
.	.	.	5.337
.	.	.	4.070
0.059	.	.	3.868
0.066	.	.	3.398
0.124	.	.	6.264
0.132	.	.	7.404
0.099	0.037	0.006	6.096
0.108	0.027	0.004	6.432
0.112	0.025	0.005	6.841
0.069	0.028	.	5.437
0.093	0.021	.	6.511
0.091	0.016	0.003	5.769
0.079	0.011	.	5.597
0.065	0.013	0.002	5.075
0.052	0.014	.	4.091
0.034	0.008	0.001	3.554
0.025	0.010	.	3.553
0.016	0.006	.	3.100
0.015	0.006	0.001	3.135
0.010	0.003	.	2.798
0.003	0.004	.	2.684
0.004	0.001	0.001	2.498
0.003	0.001	.	1.827
0.002	0.001	.	2.141
0.004	.	0.004	1.963

Basic Table 41.A. Total Zhejiang Province (11): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.222	•	•	•
1941	0.266	•	•	•
1942	0.255	•	•	•
1943	0.207	•	•	•
1944	0.240	•	•	•
1945	0.260	0.276	•	•
1946	0.276	0.285	•	•
1947	0.266	0.310	•	•
1948	0.293	0.295	•	•
1949	0.293	0.319	•	•
1950	0.295	0.294	0.245	•
1951	0.293	0.255	0.275	•
1952	0.310	0.324	0.275	•
1953	0.289	0.315	0.269	•
1954	0.370	0.312	0.238	•
1955	0.332	0.306	0.255	0.214
1956	0.292	0.310	0.284	0.216
1957	0.385	0.363	0.294	0.257
1958	0.271	0.290	0.263	0.185
1959	0.243	0.258	0.208	0.141
1960	0.235	0.266	0.200	0.183
1961	0.171	0.196	0.168	0.125
1962	0.368	0.348	0.316	0.290
1963	0.422	0.377	0.360	0.249
1964	0.360	0.328	0.282	0.241
1965	0.377	0.308	0.262	0.213
1966	0.405	0.339	0.239	0.193
1967	0.340	0.281	0.214	0.151
1968	0.391	0.314	0.220	0.176
1969	0.386	0.288	0.219	0.133
1970	0.360	0.265	0.169	0.122
1971	0.397	0.275	0.121	0.111
1972	0.340	0.214	0.136	0.083
1973	0.357	0.190	0.115	0.071
1974	0.367	0.190	0.080	0.053
1975	0.326	0.169	0.088	0.055
1976	0.366	0.173	0.085	0.040
1977	0.355	0.157	0.062	0.038
1978	0.341	0.162	0.062	0.027
1979	0.391	0.160	0.052	0.014
1980	0.293	0.111	0.046	0.010
1981	0.368	0.131	0.032	0.012
1982	0.312	0.128	0.038	0.021

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.537
.	.	.	5.732
.	.	.	6.138
.	.	.	6.022
.	.	.	6.385
.	.	.	5.930
.	.	.	5.843
.	.	.	6.496
.	.	.	6.302
.	.	.	6.404
.	.	.	6.348
.	.	.	6.370
.	.	.	7.450
.	.	.	5.826
.	.	.	4.883
0.101	.	.	5.087
0.068	.	.	3.765
0.110	.	.	7.415
0.172	.	.	8.165
0.125	0.040	0.009	6.925
0.132	0.045	0.004	6.700
0.140	0.032	0.003	6.753
0.091	0.031	.	5.547
0.101	0.026	.	6.137
0.088	0.021	0.002	5.683
0.057	0.019	0.002	4.970
0.064	0.016	0.002	4.928
0.034	0.014	0.002	4.114
0.041	0.014	0.002	3.954
0.032	0.007	.	3.643
0.039	0.006	.	3.419
0.021	0.006	.	3.455
0.019	0.005	0.002	3.185
0.008	0.004	0.003	3.032
0.010	0.002	.	3.143
0.007	0.003	0.004	2.368
0.006	0.004	.	2.761
0.008	0.005	.	2.567

Basic Table 41.B. Urban Zhejiang Province (11): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.091	.	.	.
1941	0.184	.	.	.
1942	0.282	.	.	.
1943	0.350	.	.	.
1944	0.285	.	.	.
1945	0.254	0.238	.	.
1946	0.316	0.220	.	.
1947	0.402	0.405	.	.
1948	0.239	0.333	.	.
1949	0.428	0.272	.	.
1950	0.404	0.406	0.238	.
1951	0.334	0.257	0.165	.
1952	0.314	0.380	0.246	.
1953	0.295	0.220	0.266	.
1954	0.483	0.300	0.220	.
1955	0.288	0.343	0.152	0.128
1956	0.284	0.283	0.234	0.220
1957	0.411	0.433	0.326	0.176
1958	0.285	0.284	0.210	0.200
1959	0.285	0.288	0.257	0.039
1960	0.337	0.355	0.172	0.266
1961	0.240	0.199	0.162	0.117
1962	0.363	0.219	0.260	0.141
1963	0.462	0.377	0.306	0.162
1964	0.370	0.147	0.134	0.171
1965	0.351	0.202	0.086	0.051
1966	0.262	0.138	0.076	0.061
1967	0.340	0.098	0.073	0.065
1968	0.338	0.132	0.046	0.055
1969	0.299	0.172	0.018	0.041
1970	0.337	0.120	0.106	0.019
1971	0.360	0.081	0.037	0.009
1972	0.306	0.119	0.049	.
1973	0.277	0.101	0.047	0.009
1974	0.323	0.118	0.018	0.018
1975	0.208	0.078	0.046	0.019
1976	0.279	0.104	0.030	0.009
1977	0.239	0.083	0.037	0.010
1978	0.261	0.065	0.018	.
1979	0.333	0.087	0.018	.
1980	0.191	0.027	.	.
1981	0.318	0.010	.	.
1982	0.194	.	.	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.093
.	.	.	5.126
.	.	.	8.524
.	.	.	6.550
.	.	.	6.512
.	.	.	7.517
.	.	.	5.283
.	.	.	6.929
.	.	.	5.668
.	.	.	6.867
.	.	.	5.274
.	.	.	5.991
.	.	.	7.813
.	.	.	5.719
.	.	.	4.999
0.091	.	.	6.343
0.055	.	.	4.004
0.088	.	.	5.547
0.083	.	.	7.191
0.065	.	.	4.435
.	0.018	.	3.542
.	0.018	.	2.776
0.022	.	.	2.987
0.019	.	.	2.950
0.032	0.013	.	2.876
.	.	.	2.912
.	.	.	2.434
.	.	.	2.374
.	.	.	2.172
0.010	.	.	2.438
.	.	.	1.755
.	.	.	2.114
.	.	.	1.841
.	.	.	1.723
.	.	.	2.194
.	.	.	1.091
.	.	.	1.637
.	.	.	0.969

Basic Table 41.C. Rural Zhejiang Province (11): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.237	•	•	•
1941	0.275	•	•	•
1942	0.252	•	•	•
1943	0.257	•	•	•
1944	0.233	•	•	•
1945	0.261	0.281	•	•
1946	0.270	0.292	•	•
1947	0.243	0.299	•	•
1948	0.302	0.290	•	•
1949	0.274	0.327	•	•
1950	0.280	0.276	0.246	•
1951	0.287	0.255	0.288	•
1952	0.310	0.315	0.278	•
1953	0.289	0.332	0.269	•
1954	0.355	0.314	0.241	•
1955	0.339	0.301	0.270	0.224
1956	0.293	0.314	0.292	0.216
1957	0.381	0.354	0.289	0.266
1958	0.268	0.291	0.272	0.183
1959	0.236	0.254	0.201	0.157
1960	0.217	0.252	0.205	0.170
1961	0.159	0.196	0.169	0.126
1962	0.369	0.370	0.323	0.315
1963	0.416	0.377	0.367	0.264
1964	0.358	0.361	0.303	0.251
1965	0.380	0.327	0.289	0.236
1966	0.423	0.374	0.265	0.212
1967	0.340	0.311	0.238	0.162
1968	0.397	0.342	0.251	0.191
1969	0.396	0.305	0.256	0.145
1970	0.362	0.285	0.181	0.138
1971	0.401	0.299	0.136	0.127
1972	0.344	0.226	0.150	0.097
1973	0.368	0.201	0.126	0.082
1974	0.373	0.199	0.089	0.059
1975	0.340	0.180	0.094	0.062
1976	0.375	0.182	0.091	0.046
1977	0.368	0.166	0.066	0.043
1978	0.349	0.175	0.067	0.031
1979	0.396	0.169	0.056	0.016
1980	0.303	0.121	0.051	0.011
1981	0.374	0.144	0.036	0.013
1982	0.328	0.142	0.043	0.024

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.600
.	.	.	5.819
.	.	.	5.785
.	.	.	5.943
.	.	.	6.367
.	.	.	5.705
.	.	.	5.923
.	.	.	6.436
.	.	.	6.391
.	.	.	6.338
.	.	.	6.503
.	.	.	6.425
.	.	.	7.396
.	.	.	5.842
.	.	.	4.866
0.102	.	.	4.897
0.070	.	.	3.729
0.113	.	.	7.694
0.183	.	.	8.311
0.135	0.045	0.010	7.316
0.153	0.048	0.004	7.183
0.162	0.034	0.003	7.361
0.102	0.035	.	5.945
0.115	0.029	.	6.626
0.096	0.022	0.002	6.114
0.065	0.022	0.002	5.274
0.072	0.019	0.002	5.283
0.038	0.016	0.002	4.369
0.046	0.016	0.002	4.207
0.035	0.008	.	3.810
0.044	0.007	.	3.640
0.024	0.007	.	3.626
0.022	0.005	0.002	3.352
0.010	0.004	0.003	3.194
0.012	0.003	.	3.257
0.009	0.003	0.004	2.515
0.007	0.004	.	2.990
0.010	0.006	.	2.759

Basic Table 42.A. Total Anhui Province (12): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.266	•	•	•
1941	0.277	•	•	•
1942	0.242	•	•	•
1943	0.222	•	•	•
1944	0.261	•	•	•
1945	0.264	0.241	•	•
1946	0.249	0.225	•	•
1947	0.293	0.326	•	•
1948	0.260	0.230	•	•
1949	0.270	0.272	•	•
1950	0.246	0.261	0.232	•
1951	0.244	0.240	0.228	•
1952	0.337	0.281	0.273	•
1953	0.323	0.268	0.233	•
1954	0.328	0.265	0.272	•
1955	0.270	0.276	0.201	0.186
1956	0.305	0.251	0.222	0.200
1957	0.300	0.291	0.232	0.179
1958	0.236	0.236	0.173	0.165
1959	0.137	0.141	0.109	0.094
1960	0.099	0.098	0.093	0.072
1961	0.110	0.135	0.111	0.077
1962	0.297	0.386	0.353	0.237
1963	0.394	0.402	0.330	0.269
1964	0.294	0.293	0.269	0.180
1965	0.333	0.322	0.294	0.238
1966	0.359	0.358	0.316	0.225
1967	0.297	0.309	0.257	0.227
1968	0.384	0.377	0.334	0.262
1969	0.357	0.340	0.270	0.240
1970	0.365	0.333	0.317	0.210
1971	0.345	0.311	0.300	0.234
1972	0.385	0.297	0.221	0.186
1973	0.357	0.286	0.209	0.158
1974	0.354	0.268	0.162	0.101
1975	0.341	0.266	0.139	0.079
1976	0.357	0.233	0.126	0.087
1977	0.346	0.236	0.083	0.061
1978	0.413	0.223	0.120	0.060
1979	0.415	0.238	0.134	0.058
1980	0.340	0.185	0.088	0.038
1981	0.405	0.163	0.069	0.028
1982	0.384	0.163	0.073	0.026

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.042
.	.	.	4.708
.	.	.	6.475
.	.	.	4.833
.	.	.	5.527
.	.	.	5.314
.	.	.	5.100
.	.	.	6.275
.	.	.	5.740
.	.	.	6.082
.	.	.	5.354
.	.	.	5.584
.	.	.	5.711
.	.	.	4.651
.	.	.	2.746
0.038	.	.	2.047
0.040	.	.	2.447
0.133	.	.	7.273
0.153	.	.	7.993
0.120	0.039	.	5.973
0.126	0.029	.	6.707
0.166	0.051	0.014	7.443
0.115	0.022	0.004	6.152
0.132	0.042	0.004	7.674
0.127	0.043	0.003	6.899
0.124	0.031	0.004	6.922
0.121	0.026	0.001	6.688
0.121	0.016	0.007	6.162
0.087	0.018	0.004	5.600
0.061	0.014	0.001	4.802
0.047	0.019	0.001	4.455
0.040	0.011	0.004	4.289
0.040	0.010	0.001	3.889
0.038	0.013	.	4.332
0.022	0.010	.	4.388
0.011	0.004	0.001	3.338
0.012	0.001	.	3.389
0.013	0.002	.	3.310

Basic Table 42.B. Urban Anhui Province (12): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.155	.	.	.
1941	0.426	.	.	.
1942	0.207	.	.	.
1943	0.269	.	.	.
1944	0.367	.	.	.
1945	0.269	0.108	.	.
1946	0.160	0.142	.	.
1947	0.176	0.304	.	.
1948	0.185	0.209	.	.
1949	0.274	0.233	.	.
1950	0.175	0.202	0.232	.
1951	0.266	0.304	0.199	.
1952	0.349	0.264	0.262	.
1953	0.337	0.172	0.150	.
1954	0.374	0.320	0.233	.
1955	0.328	0.278	0.236	0.139
1956	0.360	0.266	0.128	0.255
1957	0.400	0.367	0.205	0.166
1958	0.325	0.238	0.212	0.239
1959	0.238	0.294	0.217	0.150
1960	0.265	0.164	0.134	0.118
1961	0.123	0.123	0.106	0.064
1962	0.334	0.376	0.349	0.161
1963	0.445	0.424	0.296	0.212
1964	0.385	0.279	0.198	0.137
1965	0.354	0.248	0.239	0.185
1966	0.263	0.221	0.115	0.097
1967	0.323	0.212	0.172	0.107
1968	0.420	0.215	0.197	0.090
1969	0.351	0.285	0.180	0.110
1970	0.343	0.217	0.182	0.060
1971	0.340	0.170	0.131	0.057
1972	0.273	0.219	0.114	0.031
1973	0.283	0.118	0.067	0.053
1974	0.325	0.182	0.062	0.016
1975	0.413	0.086	0.032	0.033
1976	0.362	0.164	0.034	0.033
1977	0.302	0.143	0.021	.
1978	0.417	0.090	0.053	0.007
1979	0.348	0.163	0.078	.
1980	0.318	0.056	0.012	.
1981	0.289	0.020	0.013	0.008
1982	0.233	0.015	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.090
.	.	.	3.082
.	.	.	5.765
.	.	.	4.296
.	.	.	5.124
.	.	.	4.616
.	.	.	5.625
.	.	.	6.271
.	.	.	4.448
.	.	.	6.608
.	.	.	5.669
.	.	.	5.834
.	.	.	6.543
.	.	.	5.911
.	.	.	5.263
0.062	.	.	3.843
0.028	.	.	2.304
0.138	.	.	7.065
0.105	.	.	7.681
0.083	0.035	.	5.586
0.017	0.031	.	5.369
0.032	.	.	3.637
0.044	.	.	4.298
0.079	.	0.022	5.123
0.023	.	.	4.743
0.021	.	.	4.113
0.018	0.032	.	3.736
0.027	.	.	3.322
0.008	.	.	2.645
0.007	.	.	2.962
0.007	0.021	.	2.958
0.008	.	.	3.003
0.024	.	.	2.443
.	.	.	2.835
.	0.007	.	2.982
.	.	.	1.931
.	.	.	1.646
.	.	.	1.242

Basic Table 42.C. Rural Anhui Province (12): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.277	•	•	•
1941	0.261	•	•	•
1942	0.246	•	•	•
1943	0.218	•	•	•
1944	0.252	•	•	•
1945	0.264	0.255	•	•
1946	0.257	0.234	•	•
1947	0.304	0.328	•	•
1948	0.267	0.232	•	•
1949	0.269	0.276	•	•
1950	0.254	0.266	0.232	•
1951	0.241	0.234	0.231	•
1952	0.336	0.282	0.275	•
1953	0.321	0.278	0.241	•
1954	0.321	0.259	0.276	•
1955	0.262	0.276	0.198	0.191
1956	0.297	0.249	0.230	0.194
1957	0.284	0.281	0.234	0.181
1958	0.221	0.235	0.169	0.158
1959	0.121	0.118	0.097	0.089
1960	0.073	0.088	0.088	0.068
1961	0.109	0.137	0.112	0.078
1962	0.292	0.387	0.354	0.244
1963	0.387	0.399	0.334	0.275
1964	0.283	0.295	0.279	0.184
1965	0.330	0.333	0.302	0.244
1966	0.369	0.378	0.345	0.241
1967	0.295	0.323	0.270	0.242
1968	0.381	0.399	0.357	0.285
1969	0.357	0.347	0.284	0.259
1970	0.366	0.346	0.339	0.233
1971	0.345	0.325	0.326	0.259
1972	0.392	0.303	0.236	0.210
1973	0.363	0.297	0.228	0.176
1974	0.355	0.274	0.173	0.115
1975	0.335	0.278	0.150	0.086
1976	0.356	0.237	0.136	0.095
1977	0.351	0.242	0.088	0.070
1978	0.413	0.232	0.125	0.066
1979	0.424	0.244	0.137	0.065
1980	0.343	0.195	0.093	0.042
1981	0.427	0.175	0.072	0.030
1982	0.416	0.179	0.078	0.028

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.217
.	.	.	4.858
.	.	.	6.542
.	.	.	4.884
.	.	.	5.566
.	.	.	5.383
.	.	.	5.045
.	.	.	6.276
.	.	.	5.877
.	.	.	6.023
.	.	.	5.318
.	.	.	5.556
.	.	.	5.615
.	.	.	4.501
.	.	.	2.441
0.035	.	.	1.828
0.041	.	.	2.464
0.133	.	.	7.298
0.158	.	.	8.031
0.123	0.040	.	6.027
0.135	0.029	.	6.872
0.178	0.056	0.015	7.913
0.121	0.024	0.004	6.398
0.137	0.046	0.002	8.037
0.139	0.047	0.003	7.181
0.137	0.033	0.005	7.289
0.134	0.025	0.002	7.079
0.133	0.018	0.007	6.500
0.098	0.020	0.004	5.928
0.069	0.015	0.001	5.015
0.053	0.019	0.001	4.609
0.045	0.013	0.004	4.428
0.043	0.011	0.001	4.033
0.044	0.014	.	4.474
0.026	0.010	.	4.533
0.013	0.004	0.001	3.462
0.013	0.001	.	3.596
0.015	0.002	.	3.595

Basic Table 43.A. Total Fujian Province (13): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.208	•	•	•
1941	0.245	•	•	•
1942	0.181	•	•	•
1943	0.237	•	•	•
1944	0.223	•	•	•
1945	0.276	0.211	•	•
1946	0.249	0.277	•	•
1947	0.273	0.275	•	•
1948	0.276	0.259	•	•
1949	0.284	0.319	•	•
1950	0.273	0.324	0.198	•
1951	0.279	0.247	0.225	•
1952	0.315	0.345	0.293	•
1953	0.325	0.296	0.251	•
1954	0.303	0.326	0.245	•
1955	0.317	0.277	0.342	0.184
1956	0.254	0.263	0.260	0.229
1957	0.336	0.335	0.337	0.196
1958	0.295	0.306	0.231	0.223
1959	0.242	0.274	0.237	0.231
1960	0.184	0.269	0.215	0.197
1961	0.134	0.160	0.144	0.084
1962	0.325	0.359	0.289	0.224
1963	0.366	0.384	0.352	0.311
1964	0.361	0.334	0.286	0.198
1965	0.325	0.316	0.275	0.243
1966	0.368	0.353	0.331	0.211
1967	0.298	0.300	0.258	0.198
1968	0.382	0.383	0.308	0.228
1969	0.370	0.323	0.270	0.225
1970	0.341	0.329	0.288	0.204
1971	0.371	0.311	0.310	0.218
1972	0.309	0.347	0.261	0.175
1973	0.365	0.328	0.213	0.165
1974	0.367	0.256	0.210	0.133
1975	0.380	0.275	0.182	0.087
1976	0.391	0.294	0.196	0.114
1977	0.348	0.284	0.147	0.125
1978	0.379	0.262	0.136	0.057
1979	0.342	0.210	0.088	0.061
1980	0.317	0.138	0.041	0.026
1981	0.402	0.163	0.060	0.049
1982	0.357	0.163	0.079	0.039

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.625
.	.	.	5.508
.	.	.	5.572
.	.	.	5.366
.	.	.	6.311
.	.	.	5.672
.	.	.	5.306
.	.	.	6.848
.	.	.	6.161
.	.	.	6.230
.	.	.	6.449
.	.	.	5.836
.	.	.	6.937
.	.	.	6.096
.	.	.	5.719
0.128	.	.	5.181
0.045	.	.	2.947
0.105	.	.	6.767
0.192	.	.	8.334
0.151	0.042	.	6.858
0.168	0.036	0.014	6.882
0.165	0.058	0.005	7.455
0.095	0.035	0.005	5.945
0.129	0.039	.	7.345
0.106	0.036	.	6.649
0.111	0.045	.	6.593
0.113	0.034	.	6.787
0.099	0.018	.	6.046
0.093	0.030	.	5.970
0.066	0.017	.	5.244
0.045	0.014	0.005	4.943
0.050	0.008	0.003	5.284
0.052	0.010	.	4.827
0.021	0.014	.	4.347
0.019	0.008	0.002	3.650
0.004	0.002	0.002	2.652
0.020	0.010	.	3.519
0.035	.	.	3.372

Basic Table 43.B. Urban Fujian Province (13): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.102	.	.	.
1941	0.180	.	.	.
1942	0.023	.	.	.
1943	0.252	.	.	.
1944	0.115	.	.	.
1945	0.312	0.153	.	.
1946	0.232	0.284	.	.
1947	0.244	0.164	.	.
1948	0.276	0.252	.	.
1949	0.222	0.253	.	.
1950	0.265	0.378	0.204	.
1951	0.334	0.232	0.232	.
1952	0.298	0.183	0.282	.
1953	0.374	0.340	0.210	.
1954	0.372	0.242	0.277	.
1955	0.339	0.317	0.245	0.153
1956	0.256	0.254	0.324	0.309
1957	0.382	0.385	0.284	0.141
1958	0.408	0.340	0.191	0.147
1959	0.296	0.372	0.181	0.230
1960	0.375	0.357	0.265	0.111
1961	0.234	0.164	0.191	0.070
1962	0.462	0.535	0.158	0.142
1963	0.325	0.428	0.221	0.149
1964	0.250	0.387	0.186	0.081
1965	0.461	0.250	0.161	0.088
1966	0.258	0.070	0.128	0.032
1967	0.318	0.097	0.115	0.035
1968	0.226	0.325	0.134	0.068
1969	0.500	0.159	0.091	0.062
1970	0.347	0.049	0.104	0.036
1971	0.423	0.155	0.070	0.055
1972	0.264	0.087	0.073	.
1973	0.444	0.101	0.093	.
1974	0.255	0.045	0.023	.
1975	0.334	0.208	0.024	.
1976	0.289	0.154	0.129	0.047
1977	0.214	0.103	.	.
1978	0.257	0.059	0.025	.
1979	0.282	0.071	0.023	.
1980	0.222	0.040	0.046	.
1981	0.281	0.014	.	.
1982	0.312	.	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.017
.	.	.	5.722
.	.	.	3.864
.	.	.	5.434
.	.	.	5.187
.	.	.	6.288
.	.	.	5.659
.	.	.	5.509
.	.	.	6.568
.	.	.	6.326
.	.	.	6.103
.	.	.	6.804
.	.	.	6.896
.	.	.	6.215
.	.	.	6.323
0.076	.	.	6.128
.	.	.	3.428
0.023	.	.	6.806
0.084	.	.	6.260
0.069	0.029	.	5.008
0.022	.	.	4.910
0.023	.	.	2.557
0.020	.	.	2.928
0.042	0.021	.	4.331
.	.	.	4.063
0.018	.	.	2.765
0.016	.	.	3.596
0.018	.	.	2.209
.	.	.	3.186
.	.	.	1.617
.	.	.	2.830
.	.	.	3.095
.	.	.	1.584
.	.	.	1.707
.	.	.	1.679
.	.	.	1.540
.	.	.	1.471
.	.	.	1.559

Basic Table 43.C. Rural Fujian Province (13): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.223	•	•	•
1941	0.254	•	•	•
1942	0.204	•	•	•
1943	0.234	•	•	•
1944	0.237	•	•	•
1945	0.272	0.219	•	•
1946	0.252	0.276	•	•
1947	0.277	0.291	•	•
1948	0.276	0.260	•	•
1949	0.293	0.328	•	•
1950	0.274	0.316	0.197	•
1951	0.271	0.249	0.224	•
1952	0.317	0.369	0.294	•
1953	0.319	0.290	0.257	•
1954	0.293	0.338	0.240	•
1955	0.315	0.271	0.355	0.189
1956	0.254	0.264	0.252	0.217
1957	0.331	0.328	0.345	0.204
1958	0.282	0.301	0.237	0.234
1959	0.236	0.261	0.245	0.231
1960	0.162	0.258	0.207	0.209
1961	0.123	0.160	0.137	0.086
1962	0.311	0.338	0.306	0.236
1963	0.370	0.379	0.370	0.332
1964	0.372	0.328	0.299	0.214
1965	0.312	0.323	0.289	0.266
1966	0.377	0.382	0.355	0.238
1967	0.296	0.321	0.275	0.219
1968	0.394	0.389	0.322	0.249
1969	0.360	0.340	0.288	0.248
1970	0.341	0.356	0.309	0.225
1971	0.367	0.324	0.336	0.238
1972	0.314	0.366	0.280	0.197
1973	0.358	0.346	0.225	0.184
1974	0.378	0.272	0.229	0.146
1975	0.385	0.280	0.197	0.097
1976	0.401	0.305	0.202	0.121
1977	0.360	0.302	0.158	0.137
1978	0.388	0.282	0.145	0.063
1979	0.346	0.224	0.093	0.067
1980	0.325	0.149	0.040	0.028
1981	0.415	0.178	0.065	0.053
1982	0.363	0.177	0.088	0.042

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.715
.	.	.	5.477
.	.	.	5.832
.	.	.	5.356
.	.	.	6.475
.	.	.	5.581
.	.	.	5.255
.	.	.	7.041
.	.	.	6.103
.	.	.	6.216
.	.	.	6.497
.	.	.	5.700
.	.	.	6.943
.	.	.	6.079
.	.	.	5.637
0.136	.	.	5.053
0.051	.	.	2.883
0.117	.	.	6.761
0.209	.	.	8.602
0.162	0.044	.	7.103
0.188	0.042	0.016	7.178
0.184	0.066	0.006	8.045
0.106	0.040	0.005	6.312
0.141	0.042	.	7.680
0.121	0.041	.	6.987
0.125	0.031	.	7.036
0.127	0.038	.	7.155
0.109	0.021	.	6.427
0.106	0.034	.	6.255
0.075	0.020	.	5.604
0.050	0.016	0.006	5.157
0.056	0.009	0.003	5.492
0.058	0.011	.	5.127
0.024	0.015	.	4.587
0.021	0.009	0.003	3.814
0.005	0.002	0.003	2.758
0.022	0.011	.	3.720
0.039	.	.	3.541

Basic Table 44.A. Total Jiangxi Province (14): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.222	•	•	•
1941	0.211	•	•	•
1942	0.225	•	•	•
1943	0.205	•	•	•
1944	0.229	•	•	•
1945	0.245	0.230	•	•
1946	0.270	0.286	•	•
1947	0.262	0.286	•	•
1948	0.262	0.289	•	•
1949	0.292	0.318	•	•
1950	0.298	0.310	0.259	•
1951	0.288	0.285	0.243	•
1952	0.298	0.286	0.233	•
1953	0.298	0.308	0.262	•
1954	0.283	0.277	0.263	•
1955	0.306	0.269	0.238	0.206
1956	0.275	0.295	0.259	0.215
1957	0.318	0.336	0.274	0.190
1958	0.305	0.323	0.262	0.244
1959	0.206	0.259	0.192	0.198
1960	0.181	0.250	0.221	0.149
1961	0.198	0.221	0.131	0.163
1962	0.290	0.299	0.292	0.237
1963	0.345	0.345	0.348	0.265
1964	0.297	0.371	0.290	0.247
1965	0.341	0.278	0.283	0.253
1966	0.356	0.369	0.344	0.301
1967	0.312	0.343	0.322	0.263
1968	0.393	0.365	0.332	0.284
1969	0.320	0.322	0.307	0.264
1970	0.343	0.317	0.337	0.285
1971	0.344	0.326	0.281	0.189
1972	0.346	0.337	0.293	0.222
1973	0.383	0.328	0.290	0.266
1974	0.379	0.359	0.285	0.231
1975	0.350	0.353	0.258	0.176
1976	0.388	0.314	0.271	0.205
1977	0.376	0.297	0.238	0.183
1978	0.378	0.288	0.204	0.123
1979	0.388	0.238	0.162	0.085
1980	0.371	0.204	0.085	0.043
1981	0.390	0.210	0.102	0.052
1982	0.349	0.190	0.063	0.063

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.774
.	.	.	5.751
.	.	.	5.699
.	.	.	5.758
.	.	.	6.330
.	.	.	6.213
.	.	.	5.811
.	.	.	5.772
.	.	.	6.206
.	.	.	5.887
.	.	.	5.856
.	.	.	6.035
.	.	.	6.425
.	.	.	6.560
.	.	.	4.966
0.112	.	.	4.742
0.091	.	.	4.426
0.122	.	.	6.427
0.179	.	.	7.707
0.143	0.069	0.010	7.135
0.164	0.045	0.008	6.859
0.157	0.081	0.009	8.090
0.131	0.057	0.005	7.159
0.179	0.045	0.005	8.014
0.154	0.043	.	7.077
0.156	0.045	0.002	7.426
0.163	0.039	.	6.711
0.159	0.031	0.004	6.963
0.182	0.040	0.010	7.492
0.149	0.032	.	7.175
0.134	0.039	0.002	6.564
0.116	0.035	.	6.651
0.082	0.038	0.003	6.088
0.092	0.033	.	5.582
0.057	0.021	0.002	4.765
0.016	0.003	0.003	3.622
0.024	0.014	.	3.963
0.037	0.011	0.003	3.579

Basic Table 44.B. Urban Jiangxi Province (14): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.198	.	.	.
1941	0.168	.	.	.
1942	0.271	.	.	.
1943	0.213	.	.	.
1944	0.299	.	.	.
1945	0.342	0.258	.	.
1946	0.276	0.298	.	.
1947	0.234	0.291	.	.
1948	0.270	0.329	.	.
1949	0.248	0.235	.	.
1950	0.326	0.449	0.337	.
1951	0.325	0.217	0.168	.
1952	0.293	0.234	0.291	.
1953	0.377	0.321	0.348	.
1954	0.355	0.295	0.192	.
1955	0.360	0.127	0.342	0.198
1956	0.429	0.387	0.237	0.316
1957	0.317	0.344	0.360	0.136
1958	0.355	0.479	0.287	0.290
1959	0.275	0.237	0.155	0.256
1960	0.337	0.360	0.326	0.150
1961	0.258	0.171	0.139	0.079
1962	0.319	0.206	0.310	0.216
1963	0.430	0.266	0.308	0.118
1964	0.318	0.336	0.271	0.217
1965	0.456	0.202	0.180	0.184
1966	0.337	0.203	0.274	0.201
1967	0.279	0.281	0.158	0.172
1968	0.454	0.366	0.237	0.137
1969	0.379	0.299	0.092	0.101
1970	0.428	0.350	0.219	0.144
1971	0.358	0.236	0.074	0.051
1972	0.411	0.279	0.131	0.079
1973	0.368	0.204	0.172	0.015
1974	0.401	0.194	0.112	0.031
1975	0.491	0.257	0.140	0.067
1976	0.375	0.167	0.169	0.074
1977	0.466	0.151	0.098	.
1978	0.369	0.131	0.034	0.043
1979	0.291	0.075	.	0.019
1980	0.238	0.076	.	.
1981	0.214	0.051	.	.
1982	0.269	0.045	0.017	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.857
.	.	.	6.172
.	.	.	5.849
.	.	.	6.641
.	.	.	5.020
.	.	.	8.361
.	.	.	4.922
.	.	.	5.991
.	.	.	7.644
.	.	.	5.940
.	.	.	5.955
.	.	.	7.973
.	.	.	6.755
.	.	.	8.302
.	.	.	5.407
0.099	.	.	6.600
0.037	.	.	3.536
0.058	.	.	5.751
0.135	.	.	6.518
0.085	0.042	.	6.344
0.171	.	.	5.963
0.039	0.019	.	5.370
0.054	0.039	.	4.917
0.034	0.019	.	6.232
0.093	0.043	.	5.033
0.071	.	.	6.063
0.062	.	.	3.905
0.052	.	.	4.761
0.017	0.017	.	3.966
.	0.016	.	3.765
0.054	.	.	5.048
.	0.015	.	3.997
.	.	.	3.573
.	0.017	.	2.975
.	.	.	1.920
.	.	.	1.569
.	.	.	1.328
.	.	.	1.657

Basic Table 44.C. Rural Jiangxi Province (14): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.225	.	.	.
1941	0.216	.	.	.
1942	0.219	.	.	.
1943	0.204	.	.	.
1944	0.222	.	.	.
1945	0.236	0.227	.	.
1946	0.270	0.285	.	.
1947	0.265	0.285	.	.
1948	0.261	0.285	.	.
1949	0.297	0.327	.	.
1950	0.295	0.296	0.250	.
1951	0.284	0.292	0.253	.
1952	0.298	0.291	0.226	.
1953	0.290	0.307	0.252	.
1954	0.276	0.275	0.270	.
1955	0.300	0.285	0.228	0.207
1956	0.258	0.285	0.262	0.203
1957	0.318	0.335	0.265	0.197
1958	0.299	0.308	0.259	0.239
1959	0.197	0.262	0.197	0.193
1960	0.163	0.239	0.208	0.149
1961	0.192	0.227	0.185	0.172
1962	0.287	0.310	0.290	0.240
1963	0.338	0.356	0.352	0.282
1964	0.295	0.376	0.292	0.251
1965	0.331	0.287	0.295	0.261
1966	0.358	0.386	0.352	0.311
1967	0.315	0.349	0.342	0.271
1968	0.386	0.364	0.346	0.298
1969	0.313	0.325	0.335	0.281
1970	0.332	0.314	0.350	0.300
1971	0.342	0.334	0.303	0.205
1972	0.338	0.343	0.309	0.240
1973	0.384	0.343	0.300	0.301
1974	0.376	0.381	0.300	0.258
1975	0.334	0.366	0.269	0.189
1976	0.390	0.335	0.280	0.219
1977	0.363	0.316	0.253	0.201
1978	0.379	0.308	0.223	0.129
1979	0.403	0.257	0.184	0.090
1980	0.393	0.218	0.096	0.046
1981	0.418	0.231	0.116	0.057
1982	0.360	0.211	0.069	0.070

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.652
.	.	.	5.703
.	.	.	5.682
.	.	.	5.657
.	.	.	6.478
.	.	.	5.970
.	.	.	5.911
.	.	.	5.748
.	.	.	6.049
.	.	.	5.881
.	.	.	5.845
.	.	.	5.817
.	.	.	6.387
.	.	.	6.360
.	.	.	4.915
0.114	.	.	4.532
0.098	.	.	4.525
0.129	.	.	6.501
0.184	.	.	7.836
0.149	0.072	0.011	7.227
0.164	0.050	0.009	6.975
0.170	0.089	0.010	8.381
0.139	0.059	0.006	7.407
0.195	0.048	0.005	8.213
0.161	0.048	.	7.314
0.166	0.050	0.002	7.569
0.173	0.043	.	7.000
0.170	0.034	0.005	7.191
0.197	0.042	0.011	7.892
0.164	0.033	.	7.565
0.142	0.044	0.002	6.730
0.129	0.037	.	6.952
0.092	0.042	0.004	6.352
0.104	0.034	.	5.889
0.065	0.023	0.002	5.121
0.018	0.004	0.003	3.896
0.027	0.016	.	4.318
0.041	0.012	0.003	3.830

Basic Table 45.A. Total Shandong Province (15): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.199	.	.	.
1941	0.217	.	.	.
1942	0.194	.	.	.
1943	0.190	.	.	.
1944	0.201	.	.	.
1945	0.238	0.270	.	.
1946	0.234	0.255	.	.
1947	0.223	0.264	.	.
1948	0.207	0.235	.	.
1949	0.239	0.263	.	.
1950	0.224	0.246	0.211	.
1951	0.270	0.267	0.233	.
1952	0.273	0.300	0.254	.
1953	0.283	0.308	0.248	.
1954	0.298	0.279	0.244	.
1955	0.354	0.319	0.276	0.222
1956	0.293	0.268	0.233	0.193
1957	0.364	0.324	0.302	0.226
1958	0.267	0.227	0.232	0.182
1959	0.198	0.218	0.169	0.142
1960	0.210	0.204	0.166	0.140
1961	0.168	0.199	0.150	0.120
1962	0.283	0.345	0.272	0.209
1963	0.394	0.385	0.332	0.285
1964	0.287	0.279	0.245	0.189
1965	0.309	0.334	0.268	0.190
1966	0.369	0.334	0.272	0.199
1967	0.311	0.280	0.211	0.141
1968	0.388	0.343	0.254	0.174
1969	0.344	0.324	0.239	0.170
1970	0.413	0.342	0.292	0.198
1971	0.358	0.311	0.243	0.168
1972	0.348	0.249	0.200	0.148
1973	0.324	0.250	0.163	0.106
1974	0.363	0.211	0.125	0.079
1975	0.328	0.233	0.120	0.059
1976	0.364	0.198	0.089	0.052
1977	0.342	0.164	0.060	0.041
1978	0.313	0.153	0.071	0.032
1979	0.370	0.181	0.058	0.030
1980	0.285	0.121	0.029	0.008
1981	0.330	0.095	0.029	0.012
1982	0.283	0.096	0.029	0.004

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.316
.	.	.	5.088
.	.	.	5.169
.	.	.	4.641
.	.	.	5.220
.	.	.	4.890
.	.	.	5.475
.	.	.	5.934
.	.	.	6.016
.	.	.	5.809
.	.	.	6.715
.	.	.	5.663
.	.	.	6.976
.	.	.	5.221
.	.	.	4.185
0.077	.	.	4.123
0.070	.	.	3.660
0.103	.	.	6.290
0.152	.	.	8.029
0.114	0.034	0.003	5.753
0.109	0.046	0.007	6.314
0.120	0.025	0.005	6.625
0.102	0.020	0.001	5.328
0.103	0.027	0.001	6.453
0.092	0.022	0.002	5.962
0.103	0.026	0.003	6.883
0.089	0.027	.	5.983
0.075	0.024	0.003	5.229
0.048	0.020	0.001	4.557
0.030	0.019	.	4.134
0.033	0.010	.	3.911
0.016	0.003	0.001	3.617
0.013	0.008	.	3.138
0.010	0.003	0.001	2.919
0.010	0.006	0.001	3.277
0.005	0.002	0.001	2.253
0.002	0.002	.	2.353
0.005	0.001	.	2.093

Basic Table 45.B. Urban Shandong Province (15): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.166	.	.	.
1941	0.219	.	.	.
1942	0.174	.	.	.
1943	0.296	.	.	.
1944	0.244	.	.	.
1945	0.153	0.151	.	.
1946	0.307	0.219	.	.
1947	0.296	0.209	.	.
1948	0.188	0.231	.	.
1949	0.221	0.305	.	.
1950	0.228	0.245	0.151	.
1951	0.289	0.296	0.129	.
1952	0.358	0.241	0.290	.
1953	0.206	0.292	0.253	.
1954	0.400	0.317	0.244	.
1955	0.322	0.333	0.235	0.181
1956	0.313	0.249	0.265	0.193
1957	0.451	0.334	0.339	0.232
1958	0.377	0.256	0.260	0.154
1959	0.249	0.225	0.221	0.193
1960	0.349	0.289	0.219	0.133
1961	0.208	0.132	0.144	0.106
1962	0.349	0.243	0.318	0.131
1963	0.457	0.528	0.214	0.260
1964	0.369	0.249	0.186	0.115
1965	0.453	0.277	0.122	0.053
1966	0.218	0.169	0.084	0.024
1967	0.337	0.228	0.104	0.008
1968	0.418	0.180	0.119	0.033
1969	0.339	0.250	0.054	0.039
1970	0.562	0.233	0.108	0.033
1971	0.378	0.160	0.039	0.048
1972	0.322	0.152	0.040	0.023
1973	0.295	0.109	0.083	.
1974	0.287	0.113	0.053	0.011
1975	0.376	0.163	0.052	0.036
1976	0.286	0.108	0.015	0.013
1977	0.277	0.062	0.017	.
1978	0.294	0.035	.	.
1979	0.210	0.025	0.032	0.013
1980	0.218	0.071	.	0.013
1981	0.256	.	.	.
1982	0.263	0.021	0.025	.

fertility rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	3.190
•	•	•	5.056
•	•	•	4.843
•	•	•	4.648
•	•	•	6.019
•	•	•	4.521
•	•	•	5.059
•	•	•	6.373
•	•	•	5.704
•	•	•	6.812
•	•	•	6.231
•	•	•	5.939
•	•	•	7.857
•	•	•	6.025
•	•	•	5.208
0.060	•	•	5.431
0.026	•	•	3.189
0.105	•	•	5.944
0.165	•	•	8.439
0.041	0.019	•	4.895
0.041	0.015	•	4.804
0.032	0.026	•	2.767
0.022	•	•	3.496
0.010	•	•	3.798
•	•	•	3.411
0.035	0.010	•	4.910
•	•	•	3.127
•	•	•	2.686
•	•	•	2.437
•	0.019	•	2.411
•	•	•	3.134
•	•	•	2.106
•	•	•	1.777
•	•	•	1.649
•	•	•	1.401
•	•	•	1.510
•	•	•	1.282
•	•	•	1.545

Basic Table 45.C. Rural Shandong Province (15): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.201	•	•	•
1941	0.216	•	•	•
1942	0.196	•	•	•
1943	0.182	•	•	•
1944	0.197	•	•	•
1945	0.245	0.277	•	•
1946	0.228	0.258	•	•
1947	0.218	0.268	•	•
1948	0.208	0.235	•	•
1949	0.240	0.259	•	•
1950	0.224	0.246	0.215	•
1951	0.269	0.264	0.240	•
1952	0.265	0.304	0.251	•
1953	0.290	0.310	0.248	•
1954	0.290	0.276	0.244	•
1955	0.356	0.318	0.280	0.225
1956	0.291	0.270	0.230	0.193
1957	0.358	0.323	0.299	0.226
1958	0.260	0.224	0.230	0.184
1959	0.195	0.218	0.165	0.137
1960	0.201	0.199	0.162	0.140
1961	0.165	0.203	0.151	0.122
1962	0.285	0.351	0.267	0.215
1963	0.391	0.376	0.343	0.287
1964	0.283	0.281	0.250	0.194
1965	0.301	0.338	0.278	0.200
1966	0.376	0.343	0.283	0.214
1967	0.310	0.283	0.218	0.153
1968	0.387	0.351	0.263	0.187
1969	0.344	0.327	0.251	0.180
1970	0.407	0.348	0.303	0.209
1971	0.358	0.318	0.254	0.175
1972	0.349	0.253	0.208	0.155
1973	0.326	0.255	0.167	0.113
1974	0.366	0.215	0.129	0.083
1975	0.326	0.236	0.123	0.060
1976	0.368	0.202	0.093	0.054
1977	0.345	0.168	0.062	0.043
1978	0.314	0.158	0.074	0.033
1979	0.378	0.187	0.059	0.031
1980	0.289	0.123	0.030	0.008
1981	0.335	0.100	0.030	0.012
1982	0.284	0.100	0.029	0.004

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.468
.	.	.	5.090
.	.	.	5.191
.	.	.	4.641
.	.	.	5.163
.	.	.	4.918
.	.	.	5.507
.	.	.	5.901
.	.	.	6.039
.	.	.	5.736
.	.	.	6.750
.	.	.	5.643
.	.	.	6.912
.	.	.	5.163
.	.	.	4.113
0.078	.	.	4.032
0.073	.	.	3.692
0.103	.	.	6.313
0.151	.	.	8.002
0.120	0.035	0.003	5.829
0.115	0.048	0.007	6.438
0.128	0.025	0.005	6.876
0.108	0.021	0.001	5.466
0.110	0.030	0.001	6.640
0.098	0.024	0.002	6.137
0.109	0.027	0.003	7.027
0.097	0.029	.	6.156
0.082	0.026	0.003	5.379
0.052	0.021	0.001	4.673
0.033	0.019	.	4.221
0.035	0.011	.	3.953
0.017	0.003	0.001	3.688
0.014	0.009	.	3.202
0.010	0.004	0.001	2.975
0.010	0.007	0.001	3.366
0.005	0.002	0.001	2.290
0.002	0.002	.	2.409
0.006	0.001	.	2.123

Basic Table 46.A. Total Henan Province (16): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.195	.	.	.
1941	0.208	.	.	.
1942	0.209	.	.	.
1943	0.172	.	.	.
1944	0.177	.	.	.
1945	0.207	0.254	.	.
1946	0.239	0.236	.	.
1947	0.234	0.284	.	.
1948	0.229	0.240	.	.
1949	0.228	0.249	.	.
1950	0.227	0.274	0.218	.
1951	0.255	0.281	0.239	.
1952	0.311	0.296	0.245	.
1953	0.265	0.277	0.241	.
1954	0.282	0.278	0.274	.
1955	0.289	0.288	0.276	0.191
1956	0.260	0.242	0.233	0.192
1957	0.297	0.282	0.268	0.208
1958	0.207	0.237	0.214	0.181
1959	0.160	0.188	0.163	0.154
1960	0.144	0.180	0.143	0.140
1961	0.144	0.148	0.128	0.088
1962	0.298	0.312	0.282	0.223
1963	0.393	0.414	0.369	0.304
1964	0.288	0.283	0.266	0.231
1965	0.296	0.323	0.302	0.227
1966	0.347	0.340	0.312	0.273
1967	0.319	0.318	0.282	0.234
1968	0.399	0.371	0.314	0.265
1969	0.342	0.322	0.272	0.234
1970	0.353	0.330	0.302	0.244
1971	0.352	0.307	0.288	0.224
1972	0.336	0.323	0.270	0.214
1973	0.324	0.307	0.224	0.179
1974	0.372	0.299	0.236	0.167
1975	0.305	0.254	0.146	0.103
1976	0.332	0.221	0.151	0.083
1977	0.342	0.221	0.122	0.066
1978	0.355	0.239	0.133	0.079
1979	0.371	0.246	0.136	0.064
1980	0.321	0.182	0.072	0.029
1981	0.370	0.194	0.077	0.028
1982	0.302	0.158	0.073	0.025

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.926
•	•	•	4.807
•	•	•	5.534
•	•	•	4.832
•	•	•	4.961
•	•	•	5.201
•	•	•	5.560
•	•	•	6.029
•	•	•	5.602
•	•	•	5.972
•	•	•	6.005
•	•	•	5.344
•	•	•	6.069
•	•	•	4.856
•	•	•	3.854
0.082	•	•	3.553
0.049	•	•	2.853
0.122	•	•	6.389
0.214	•	•	8.762
0.141	0.042	0.009	6.297
0.144	0.042	0.006	6.702
0.166	0.048	0.006	7.456
0.139	0.041	0.003	6.679
0.170	0.059	0.001	7.897
0.147	0.050	0.004	6.861
0.170	0.047	0.005	7.254
0.144	0.030	0.001	6.731
0.138	0.033	0.003	6.582
0.118	0.024	0.002	5.885
0.089	0.024	0.004	5.958
0.065	0.019	•	4.461
0.039	0.014	0.001	4.200
0.034	0.009	0.002	3.984
0.023	0.010	0.001	4.199
0.023	0.006	•	4.230
0.015	0.002	0.001	3.106
0.011	0.003	0.001	3.413
0.004	0.002	•	2.819

Basic Table 46.B. Urban Henan Province (16): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.232	•	•	•
1941	0.166	•	•	•
1942	0.220	•	•	•
1943	0.186	•	•	•
1944	0.155	•	•	•
1945	0.170	0.232	•	•
1946	0.242	0.212	•	•
1947	0.163	0.246	•	•
1948	0.185	0.186	•	•
1949	0.276	0.200	•	•
1950	0.203	0.223	0.232	•
1951	0.232	0.252	0.151	•
1952	0.333	0.326	0.298	•
1953	0.227	0.202	0.137	•
1954	0.259	0.360	0.200	•
1955	0.285	0.196	0.329	0.108
1956	0.231	0.204	0.171	0.197
1957	0.288	0.270	0.217	0.194
1958	0.202	0.293	0.202	0.124
1959	0.226	0.243	0.153	0.211
1960	0.233	0.221	0.166	0.149
1961	0.197	0.166	0.126	0.081
1962	0.349	0.213	0.241	0.199
1963	0.434	0.404	0.242	0.337
1964	0.291	0.314	0.266	0.214
1965	0.392	0.349	0.142	0.158
1966	0.292	0.202	0.166	0.175
1967	0.343	0.317	0.144	0.099
1968	0.409	0.308	0.232	0.117
1969	0.324	0.280	0.221	0.160
1970	0.424	0.253	0.216	0.064
1971	0.328	0.156	0.159	0.094
1972	0.351	0.260	0.166	0.082
1973	0.319	0.195	0.136	0.080
1974	0.380	0.176	0.148	0.093
1975	0.235	0.182	0.121	0.050
1976	0.287	0.144	0.068	0.058
1977	0.310	0.092	0.059	0.052
1978	0.325	0.103	0.074	0.045
1979	0.302	0.152	0.102	0.016
1980	0.266	0.039	0.009	•
1981	0.252	0.061	0.008	0.020
1982	0.244	0.038	•	•

rates, 1940-82

20-24	25-29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.581
•	•	•	4.614
•	•	•	4.773
•	•	•	3.926
•	•	•	4.593
•	•	•	4.931
•	•	•	4.599
•	•	•	7.025
•	•	•	4.037
•	•	•	6.069
•	•	•	5.333
•	•	•	4.702
•	•	•	5.656
•	•	•	4.827
•	•	•	4.901
0.093	•	•	4.477
0.030	•	•	3.102
0.065	•	•	5.523
0.137	•	•	8.074
0.078	•	0.069	6.155
0.053	0.015	•	5.552
0.121	0.030	•	4.930
0.072	0.013	•	4.948
0.194	0.050	•	6.553
0.107	0.011	0.017	5.596
0.098	0.021	•	5.382
0.070	0.020	•	4.138
0.035	0.027	•	4.612
0.029	•	•	3.797
0.015	0.015	•	4.138
0.007	0.015	•	3.045
0.007	0.007	•	2.856
0.021	•	•	2.663
•	0.007	•	2.778
0.012	•	•	2.919
•	•	•	1.567
•	•	•	1.709
•	•	•	1.412

Basic Table 46.C. Rural Henan Province (16): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.192	•	•	•
1941	0.211	•	•	•
1942	0.209	•	•	•
1943	0.171	•	•	•
1944	0.179	•	•	•
1945	0.210	0.255	•	•
1946	0.238	0.237	•	•
1947	0.240	0.287	•	•
1948	0.234	0.244	•	•
1949	0.223	0.254	•	•
1950	0.229	0.279	0.217	•
1951	0.257	0.284	0.245	•
1952	0.309	0.293	0.241	•
1953	0.269	0.284	0.249	•
1954	0.285	0.269	0.280	•
1955	0.290	0.297	0.272	0.196
1956	0.263	0.246	0.238	0.192
1957	0.298	0.284	0.272	0.209
1958	0.208	0.231	0.215	0.185
1959	0.150	0.183	0.164	0.150
1960	0.130	0.175	0.141	0.139
1961	0.135	0.145	0.128	0.088
1962	0.290	0.324	0.286	0.225
1963	0.387	0.415	0.383	0.300
1964	0.288	0.278	0.266	0.232
1965	0.285	0.319	0.320	0.234
1966	0.353	0.363	0.329	0.284
1967	0.317	0.318	0.299	0.248
1968	0.399	0.381	0.325	0.281
1969	0.344	0.328	0.280	0.242
1970	0.348	0.339	0.316	0.265
1971	0.353	0.323	0.310	0.238
1972	0.335	0.328	0.287	0.230
1973	0.324	0.315	0.238	0.193
1974	0.371	0.308	0.249	0.178
1975	0.309	0.259	0.150	0.111
1976	0.334	0.226	0.160	0.087
1977	0.343	0.231	0.127	0.068
1978	0.357	0.247	0.138	0.084
1979	0.377	0.251	0.138	0.071
1980	0.325	0.190	0.076	0.033
1981	0.380	0.201	0.082	0.028
1982	0.307	0.165	0.078	0.027

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.951
•	•	•	4.821
•	•	•	5.593
•	•	•	4.904
•	•	•	4.992
•	•	•	5.223
•	•	•	5.641
•	•	•	5.942
•	•	•	5.738
•	•	•	5.964
•	•	•	6.066
•	•	•	5.402
•	•	•	6.108
•	•	•	4.859
•	•	•	3.749
0.081	•	•	3.458
0.050	•	•	2.827
0.127	•	•	6.481
0.220	•	•	8.837
0.146	0.045	0.006	6.307
0.152	0.044	0.007	6.798
0.169	0.049	0.007	7.763
0.145	0.043	0.003	6.867
0.168	0.060	0.001	8.070
0.151	0.053	0.003	7.007
0.177	0.049	0.005	7.497
0.152	0.031	0.001	7.045
0.149	0.033	0.003	6.827
0.128	0.026	0.002	6.125
0.097	0.025	0.005	6.162
0.071	0.019	•	4.600
0.042	0.014	0.001	4.325
0.036	0.010	0.002	4.090
0.026	0.010	0.002	4.316
0.025	0.007	•	4.340
0.017	0.002	0.001	3.220
0.012	0.003	0.001	3.539
0.005	0.002	•	2.920

Basic Table 47.A. Total Hubei Province (17): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.222	•	•	•
1941	0.290	•	•	•
1942	0.202	•	•	•
1943	0.280	•	•	•
1944	0.242	•	•	•
1945	0.249	0.264	•	•
1946	0.262	0.296	•	•
1947	0.280	0.262	•	•
1948	0.298	0.301	•	•
1949	0.265	0.284	•	•
1950	0.269	0.258	0.235	•
1951	0.275	0.296	0.273	•
1952	0.324	0.323	0.255	•
1953	0.314	0.274	0.251	•
1954	0.347	0.305	0.272	•
1955	0.324	0.313	0.287	0.203
1956	0.287	0.296	0.230	0.180
1957	0.362	0.359	0.309	0.261
1958	0.339	0.312	0.253	0.211
1959	0.227	0.289	0.228	0.172
1960	0.156	0.166	0.150	0.103
1961	0.217	0.270	0.224	0.160
1962	0.374	0.408	0.340	0.268
1963	0.419	0.391	0.335	0.316
1964	0.329	0.362	0.304	0.211
1965	0.365	0.312	0.293	0.227
1966	0.366	0.377	0.288	0.248
1967	0.329	0.278	0.275	0.205
1968	0.446	0.393	0.370	0.253
1969	0.382	0.321	0.276	0.250
1970	0.378	0.332	0.282	0.199
1971	0.392	0.325	0.259	0.200
1972	0.384	0.261	0.222	0.167
1973	0.356	0.277	0.181	0.117
1974	0.407	0.261	0.145	0.093
1975	0.390	0.247	0.124	0.069
1976	0.427	0.214	0.107	0.052
1977	0.375	0.205	0.075	0.039
1978	0.366	0.167	0.090	0.034
1979	0.410	0.205	0.106	0.032
1980	0.297	0.156	0.052	0.026
1981	0.359	0.124	0.041	0.019
1982	0.301	0.100	0.049	0.032

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.308
.	.	.	5.863
.	.	.	5.439
.	.	.	6.127
.	.	.	5.696
.	.	.	5.420
.	.	.	6.077
.	.	.	6.383
.	.	.	5.885
.	.	.	6.492
.	.	.	6.480
.	.	.	5.681
.	.	.	7.451
.	.	.	6.343
.	.	.	5.280
0.063	.	.	3.264
0.084	.	.	4.929
0.162	.	.	7.985
0.179	.	.	8.480
0.121	0.040	.	6.838
0.116	0.040	.	6.764
0.173	0.062	0.002	7.583
0.108	0.023	0.002	6.102
0.149	0.044	0.003	8.290
0.139	0.045	.	7.064
0.138	0.034	0.001	6.822
0.128	0.026	0.003	6.666
0.089	0.027	.	5.749
0.063	0.018	0.004	5.076
0.061	0.018	.	4.929
0.039	0.010	0.003	4.411
0.028	0.009	.	4.186
0.022	0.008	0.003	3.630
0.014	0.004	.	3.372
0.014	0.003	.	3.948
0.009	0.002	.	2.715
0.005	.	.	2.739
0.005	0.004	.	2.459

Basic Table 47.B. Urban Hubei Province (17): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.246	•	•	•
1941	0.343	•	•	•
1942	0.248	•	•	•
1943	0.299	•	•	•
1944	0.170	•	•	•
1945	0.203	0.246	•	•
1946	0.284	0.252	•	•
1947	0.269	0.218	•	•
1948	0.324	0.224	•	•
1949	0.270	0.250	•	•
1950	0.413	0.215	0.246	•
1951	0.298	0.247	0.242	•
1952	0.254	0.202	0.208	•
1953	0.453	0.205	0.235	•
1954	0.363	0.260	0.204	•
1955	0.328	0.292	0.305	0.190
1956	0.333	0.275	0.185	0.141
1957	0.398	0.367	0.376	0.268
1958	0.322	0.327	0.097	0.096
1959	0.337	0.322	0.260	0.204
1960	0.275	0.279	0.215	0.136
1961	0.252	0.235	0.207	0.123
1962	0.473	0.360	0.281	0.148
1963	0.420	0.370	0.358	0.302
1964	0.333	0.260	0.208	0.190
1965	0.307	0.138	0.194	0.112
1966	0.217	0.221	0.098	0.138
1967	0.268	0.177	0.164	0.047
1968	0.397	0.345	0.185	0.094
1969	0.371	0.201	0.143	0.149
1970	0.385	0.157	0.148	0.049
1971	0.348	0.237	0.118	0.069
1972	0.344	0.141	0.083	0.082
1973	0.310	0.199	0.059	0.032
1974	0.297	0.135	0.075	0.015
1975	0.434	0.121	0.054	0.015
1976	0.306	0.121	0.026	0.010
1977	0.390	0.128	0.007	0.010
1978	0.372	0.081	0.064	•
1979	0.303	0.092	0.024	0.006
1980	0.213	0.048	0.011	0.006
1981	0.270	0.052	0.011	•
1982	0.198	0.015	•	•

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.971
.	.	.	5.475
.	.	.	4.859
.	.	.	5.229
.	.	.	5.365
.	.	.	6.033
.	.	.	5.694
.	.	.	4.799
.	.	.	6.057
.	.	.	5.795
.	.	.	6.506
.	.	.	5.375
.	.	.	8.254
.	.	.	4.802
.	.	.	6.539
0.056	.	.	4.980
0.050	.	.	4.499
0.099	.	.	7.038
0.085	.	.	7.974
0.057	0.012	.	5.303
0.034	0.011	.	3.980
0.037	0.020	.	3.654
.	.	.	3.278
0.011	0.011	.	5.214
0.070	0.011	.	4.724
0.077	0.011	.	4.133
0.069	.	.	4.203
0.027	.	.	3.386
0.025	.	0.011	3.178
0.012	0.020	.	2.771
0.006	.	0.011	3.212
.	.	.	2.322
.	.	.	2.679
.	.	.	2.583
.	.	.	2.124
.	.	.	1.389
.	.	.	1.666
.	.	.	1.062

Basic Table 47.C. Rural Hubei Province (17): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.219	•	•	•
1941	0.283	•	•	•
1942	0.196	•	•	•
1943	0.277	•	•	•
1944	0.252	•	•	•
1945	0.255	0.266	•	•
1946	0.259	0.302	•	•
1947	0.281	0.269	•	•
1948	0.295	0.312	•	•
1949	0.264	0.289	•	•
1950	0.248	0.264	0.234	•
1951	0.271	0.302	0.277	•
1952	0.337	0.336	0.262	•
1953	0.289	0.283	0.253	•
1954	0.344	0.311	0.280	•
1955	0.323	0.315	0.285	0.205
1956	0.278	0.300	0.235	0.185
1957	0.354	0.357	0.302	0.260
1958	0.343	0.309	0.273	0.226
1959	0.200	0.283	0.224	0.168
1960	0.127	0.145	0.140	0.099
1961	0.210	0.277	0.226	0.165
1962	0.353	0.418	0.350	0.281
1963	0.419	0.396	0.331	0.318
1964	0.328	0.387	0.323	0.214
1965	0.375	0.355	0.312	0.244
1966	0.390	0.412	0.328	0.265
1967	0.338	0.300	0.300	0.232
1968	0.453	0.402	0.413	0.282
1969	0.384	0.341	0.309	0.270
1970	0.377	0.362	0.315	0.228
1971	0.399	0.340	0.292	0.227
1972	0.390	0.279	0.251	0.186
1973	0.363	0.288	0.205	0.137
1974	0.424	0.281	0.157	0.112
1975	0.383	0.267	0.136	0.082
1976	0.451	0.228	0.121	0.061
1977	0.371	0.216	0.086	0.045
1978	0.364	0.179	0.094	0.040
1979	0.436	0.222	0.119	0.036
1980	0.319	0.174	0.059	0.029
1981	0.381	0.138	0.045	0.023
1982	0.325	0.120	0.057	0.037

rates, 1940-82

20-24	25-29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.351
•	•	•	5.912
•	•	•	5.511
•	•	•	6.243
•	•	•	5.738
•	•	•	5.338
•	•	•	6.129
•	•	•	6.603
•	•	•	5.861
•	•	•	6.594
•	•	•	6.476
•	•	•	5.727
•	•	•	7.325
•	•	•	6.594
•	•	•	5.070
0.064	•	•	2.978
0.089	•	•	5.001
0.171	•	•	8.145
0.192	•	•	8.565
0.129	0.044	•	7.128
0.126	0.043	•	7.275
0.189	0.069	0.003	8.276
0.120	0.027	0.002	6.591
0.167	0.049	0.004	8.843
0.148	0.049	•	7.506
0.146	0.037	0.001	7.332
0.138	0.029	0.003	7.132
0.099	0.030	•	6.180
0.069	0.020	0.003	5.425
0.071	0.018	•	5.317
0.046	0.011	0.001	4.633
0.033	0.011	•	4.526
0.027	0.009	0.003	3.785
0.017	0.005	•	3.499
0.018	0.003	•	4.173
0.011	0.002	•	2.975
0.006	•	•	2.967
0.007	0.005	•	2.753

Basic Table 48.A. Total Hunan Province (18): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.246	.	.	.
1941	0.268	.	.	.
1942	0.258	.	.	.
1943	0.243	.	.	.
1944	0.272	.	.	.
1945	0.242	0.273	.	.
1946	0.240	0.315	.	.
1947	0.295	0.304	.	.
1948	0.298	0.316	.	.
1949	0.284	0.337	.	.
1950	0.269	0.319	0.264	.
1951	0.291	0.292	0.283	.
1952	0.303	0.321	0.300	.
1953	0.334	0.322	0.283	.
1954	0.310	0.302	0.300	.
1955	0.271	0.313	0.254	0.223
1956	0.295	0.325	0.300	0.225
1957	0.321	0.329	0.272	0.239
1958	0.276	0.269	0.261	0.220
1959	0.189	0.207	0.203	0.156
1960	0.174	0.197	0.160	0.150
1961	0.122	0.174	0.132	0.084
1962	0.313	0.346	0.339	0.262
1963	0.387	0.417	0.362	0.302
1964	0.356	0.356	0.309	0.237
1965	0.320	0.369	0.290	0.246
1966	0.372	0.336	0.300	0.263
1967	0.290	0.286	0.243	0.216
1968	0.422	0.414	0.355	0.266
1969	0.354	0.316	0.275	0.247
1970	0.349	0.324	0.284	0.220
1971	0.369	0.344	0.248	0.174
1972	0.387	0.290	0.227	0.157
1973	0.368	0.289	0.193	0.133
1974	0.417	0.285	0.192	0.129
1975	0.405	0.283	0.149	0.095
1976	0.383	0.215	0.124	0.061
1977	0.383	0.191	0.091	0.042
1978	0.362	0.183	0.069	0.028
1979	0.390	0.181	0.066	0.024
1980	0.352	0.152	0.050	0.014
1981	0.402	0.160	0.054	0.022
1982	0.403	0.206	0.068	0.025

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.452
.	.	.	6.105
.	.	.	6.175
.	.	.	6.360
.	.	.	6.621
.	.	.	6.211
.	.	.	6.263
.	.	.	6.684
.	.	.	6.725
.	.	.	6.553
.	.	.	6.156
.	.	.	6.660
.	.	.	6.742
.	.	.	5.953
.	.	.	4.402
0.100	.	.	4.082
0.055	.	.	2.949
0.115	.	.	7.153
0.190	.	.	8.608
0.175	0.073	.	7.532
0.160	0.060	0.015	7.304
0.180	0.043	0.008	7.505
0.129	0.034	0.011	6.045
0.159	0.052	0.003	8.358
0.139	0.054	0.004	6.944
0.138	0.038	0.006	6.800
0.121	0.030	0.006	6.457
0.112	0.031	0.002	6.039
0.086	0.019	0.006	5.466
0.076	0.026	0.005	5.652
0.055	0.023	0.003	5.069
0.027	0.018	0.002	4.152
0.023	0.011	0.003	3.721
0.018	0.010	.	3.348
0.017	0.006	0.001	3.424
0.007	0.001	0.002	2.887
0.007	0.006	0.001	3.256
0.014	0.008	0.002	3.626

Basic Table 48.B. Urban Hunan Province (18): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.268	•	•	•
1941	0.272	•	•	•
1942	0.283	•	•	•
1943	0.246	•	•	•
1944	0.309	•	•	•
1945	0.301	0.230	•	•
1946	0.236	0.198	•	•
1947	0.354	0.271	•	•
1948	0.298	0.213	•	•
1949	0.376	0.237	•	•
1950	0.287	0.294	0.185	•
1951	0.296	0.282	0.191	•
1952	0.271	0.264	0.245	•
1953	0.412	0.228	0.199	•
1954	0.318	0.259	0.178	•
1955	0.326	0.287	0.224	0.204
1956	0.290	0.272	0.249	0.099
1957	0.462	0.336	0.204	0.167
1958	0.320	0.300	0.240	0.140
1959	0.311	0.228	0.141	0.105
1960	0.328	0.184	0.141	0.133
1961	0.202	0.180	0.124	0.085
1962	0.421	0.246	0.213	0.186
1963	0.357	0.343	0.209	0.146
1964	0.444	0.287	0.166	0.135
1965	0.381	0.268	0.113	0.070
1966	0.272	0.147	0.141	0.071
1967	0.343	0.211	0.069	0.065
1968	0.366	0.203	0.152	0.028
1969	0.353	0.162	0.160	0.055
1970	0.333	0.165	0.112	0.064
1971	0.285	0.142	0.055	0.031
1972	0.329	0.100	0.096	0.038
1973	0.203	0.080	0.058	0.008
1974	0.341	0.128	0.061	0.008
1975	0.388	0.073	0.052	0.026
1976	0.294	0.123	•	•
1977	0.339	0.090	0.011	•
1978	0.272	0.054	•	•
1979	0.212	0.085	0.011	•
1980	0.265	0.048	0.010	•
1981	0.239	0.034	•	0.022
1982	0.205	0.082	•	•

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.197
•	•	•	4.359
•	•	•	6.122
•	•	•	4.912
•	•	•	5.695
•	•	•	5.526
•	•	•	5.530
•	•	•	5.725
•	•	•	5.728
•	•	•	5.326
•	•	•	6.055
•	•	•	5.265
•	•	•	6.668
•	•	•	5.787
•	•	•	4.481
0.077	•	•	4.459
0.049	•	•	3.319
0.045	•	•	5.736
0.106	•	•	6.025
0.059	0.044	•	5.678
0.049	0.032	•	4.567
0.039	•	•	3.352
0.018	0.006	•	3.559
0.041	•	•	3.949
0.029	0.026	•	3.925
•	0.007	•	3.406
0.012	•	0.006	2.655
0.013	•	•	2.878
0.007	•	•	1.780
•	•	•	2.688
•	•	•	2.690
•	•	•	2.086
•	•	0.006	2.230
•	•	•	1.628
•	•	•	1.538
•	•	0.006	1.647
•	•	•	1.472
•	•	•	1.435

Basic Table 48.C. Rural Hunan Province (18): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.241	•	•	•
1941	0.268	•	•	•
1942	0.252	•	•	•
1943	0.242	•	•	•
1944	0.265	•	•	•
1945	0.231	0.284	•	•
1946	0.240	0.344	•	•
1947	0.283	0.312	•	•
1948	0.298	0.337	•	•
1949	0.268	0.357	•	•
1950	0.266	0.323	0.284	•
1951	0.290	0.293	0.306	•
1952	0.308	0.333	0.312	•
1953	0.324	0.340	0.301	•
1954	0.308	0.309	0.324	•
1955	0.263	0.317	0.260	0.228
1956	0.296	0.333	0.309	0.256
1957	0.302	0.328	0.286	0.255
1958	0.269	0.265	0.265	0.237
1959	0.172	0.204	0.214	0.166
1960	0.153	0.198	0.163	0.154
1961	0.112	0.173	0.133	0.084
1962	0.302	0.359	0.356	0.277
1963	0.389	0.428	0.382	0.332
1964	0.349	0.366	0.329	0.255
1965	0.315	0.383	0.316	0.274
1966	0.380	0.358	0.322	0.291
1967	0.286	0.293	0.267	0.237
1968	0.427	0.433	0.384	0.297
1969	0.354	0.328	0.292	0.274
1970	0.350	0.336	0.308	0.243
1971	0.376	0.358	0.271	0.194
1972	0.391	0.304	0.241	0.174
1973	0.380	0.304	0.204	0.152
1974	0.423	0.297	0.202	0.146
1975	0.406	0.298	0.157	0.105
1976	0.391	0.222	0.133	0.068
1977	0.388	0.198	0.097	0.047
1978	0.373	0.192	0.074	0.031
1979	0.413	0.188	0.070	0.026
1980	0.363	0.161	0.052	0.016
1981	0.424	0.172	0.058	0.022
1982	0.430	0.221	0.073	0.027

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.504
•	•	•	6.460
•	•	•	6.186
•	•	•	6.651
•	•	•	6.799
•	•	•	6.338
•	•	•	6.398
•	•	•	6.858
•	•	•	6.902
•	•	•	6.771
•	•	•	6.173
•	•	•	6.902
•	•	•	6.755
•	•	•	5.981
•	•	•	4.388
0.106	•	•	4.019
0.056	•	•	2.889
0.130	•	•	7.377
0.207	•	•	9.006
0.198	0.080	•	7.882
0.180	0.067	0.018	7.769
0.206	0.053	0.009	8.098
0.151	0.040	0.014	6.442
0.181	0.063	0.004	8.944
0.158	0.060	0.005	7.349
0.160	0.044	0.008	7.244
0.137	0.036	0.006	6.885
0.126	0.038	0.003	6.383
0.096	0.023	0.007	5.827
0.086	0.031	0.006	5.960
0.063	0.027	0.004	5.297
0.031	0.021	0.002	4.347
0.026	0.012	0.002	3.855
0.021	0.011	•	3.509
0.020	0.007	0.001	3.622
0.008	0.001	0.001	3.008
0.007	0.007	0.001	3.454
0.015	0.009	0.002	3.879

Basic Table 49.A. Total Guangdong Province (19): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.151	•	•	•
1941	0.168	•	•	•
1942	0.184	•	•	•
1943	0.181	•	•	•
1944	0.184	•	•	•
1945	0.217	0.235	•	•
1946	0.193	0.204	•	•
1947	0.192	0.247	•	•
1948	0.216	0.239	•	•
1949	0.205	0.274	•	•
1950	0.232	0.270	0.249	•
1951	0.220	0.283	0.224	•
1952	0.264	0.254	0.232	•
1953	0.277	0.276	0.251	•
1954	0.271	0.254	0.277	•
1955	0.286	0.277	0.225	0.208
1956	0.273	0.260	0.257	0.197
1957	0.328	0.309	0.267	0.197
1958	0.295	0.287	0.233	0.207
1959	0.258	0.239	0.229	0.189
1960	0.189	0.205	0.157	0.150
1961	0.224	0.215	0.179	0.128
1962	0.311	0.357	0.311	0.222
1963	0.332	0.329	0.283	0.226
1964	0.327	0.321	0.278	0.177
1965	0.326	0.274	0.249	0.222
1966	0.345	0.326	0.245	0.211
1967	0.343	0.256	0.230	0.184
1968	0.350	0.343	0.266	0.221
1969	0.336	0.312	0.238	0.200
1970	0.363	0.287	0.252	0.203
1971	0.337	0.330	0.232	0.187
1972	0.362	0.282	0.215	0.187
1973	0.357	0.299	0.210	0.153
1974	0.372	0.294	0.181	0.108
1975	0.334	0.276	0.168	0.078
1976	0.342	0.264	0.151	0.103
1977	0.355	0.220	0.110	0.076
1978	0.350	0.268	0.137	0.085
1979	0.408	0.254	0.123	0.086
1980	0.374	0.230	0.103	0.070
1981	0.407	0.235	0.111	0.070
1982	0.376	0.251	0.099	0.037

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.702
.	.	.	4.126
.	.	.	4.761
.	.	.	4.780
.	.	.	5.251
.	.	.	5.468
.	.	.	5.297
.	.	.	5.359
.	.	.	5.753
.	.	.	5.769
.	.	.	5.720
.	.	.	5.683
.	.	.	6.274
.	.	.	5.852
.	.	.	5.250
0.101	.	.	4.118
0.088	.	.	4.296
0.105	.	.	6.741
0.167	.	.	6.910
0.121	0.037	0.010	6.361
0.107	0.037	0.029	6.220
0.133	0.046	0.002	6.544
0.098	0.034	0.011	5.786
0.117	0.040	0.011	6.747
0.104	0.039	0.006	6.169
0.096	0.040	0.007	6.235
0.101	0.020	0.004	6.055
0.116	0.028	0.002	5.961
0.072	0.013	0.009	5.565
0.065	0.020	0.003	5.214
0.048	0.018	0.003	4.619
0.041	0.017	0.001	4.589
0.041	0.012	.	4.072
0.033	0.012	0.002	4.439
0.029	0.014	0.003	4.582
0.035	0.010	0.001	4.121
0.036	0.013	0.003	4.374
0.023	0.003	0.002	3.953

Basic Table 49.B. Urban Guangdong Province (19): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.147	.	.	.
1941	0.223	.	.	.
1942	0.295	.	.	.
1943	0.218	.	.	.
1944	0.208	.	.	.
1945	0.270	0.258	.	.
1946	0.320	0.283	.	.
1947	0.275	0.278	.	.
1948	0.366	0.318	.	.
1949	0.261	0.331	.	.
1950	0.328	0.375	0.203	.
1951	0.319	0.341	0.206	.
1952	0.302	0.301	0.253	.
1953	0.333	0.335	0.251	.
1954	0.318	0.278	0.293	.
1955	0.373	0.328	0.195	0.194
1956	0.362	0.209	0.284	0.223
1957	0.443	0.346	0.308	0.126
1958	0.375	0.247	0.171	0.176
1959	0.334	0.242	0.130	0.185
1960	0.248	0.224	0.153	0.105
1961	0.250	0.232	0.120	0.107
1962	0.369	0.381	0.239	0.167
1963	0.422	0.341	0.276	0.202
1964	0.362	0.248	0.195	0.107
1965	0.345	0.194	0.103	0.077
1966	0.303	0.162	0.076	0.073
1967	0.383	0.204	0.050	0.063
1968	0.356	0.192	0.088	0.048
1969	0.333	0.187	0.086	0.047
1970	0.386	0.162	0.068	0.042
1971	0.323	0.227	0.068	0.021
1972	0.405	0.156	0.055	0.017
1973	0.364	0.192	0.053	0.017
1974	0.340	0.137	0.033	.
1975	0.290	0.176	0.032	.
1976	0.318	0.106	0.011	.
1977	0.286	0.092	0.022	.
1978	0.280	0.088	0.011	.
1979	0.305	0.085	.	.
1980	0.311	0.070	0.005	.
1981	0.283	0.033	0.005	.
1982	0.212	0.046	0.009	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.504
.	.	.	6.158
.	.	.	5.847
.	.	.	6.952
.	.	.	6.632
.	.	.	6.573
.	.	.	6.269
.	.	.	6.267
.	.	.	6.686
.	.	.	6.503
.	.	.	6.294
.	.	.	6.264
.	.	.	7.018
.	.	.	5.548
.	.	.	5.121
0.028	.	.	3.915
0.034	.	.	3.842
0.067	.	.	6.335
0.059	.	.	6.722
0.062	.	.	4.867
0.030	.	.	3.738
0.014	.	.	3.139
0.013	.	.	3.564
0.019	0.017	0.011	3.654
0.012	.	.	3.321
0.011	.	.	3.342
0.005	.	.	3.219
0.015	.	.	3.238
0.005	.	.	3.158
.	.	.	2.551
0.005	.	.	2.514
.	.	.	2.172
.	.	.	2.000
.	.	.	1.895
.	.	.	1.950
.	.	.	1.931
.	0.004	.	1.621
.	.	.	1.338

Basic Table 49.C. Rural Guangdong Province (19): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.151	•	•	•
1941	0.159	•	•	•
1942	0.167	•	•	•
1943	0.175	•	•	•
1944	0.180	•	•	•
1945	0.209	0.231	•	•
1946	0.172	0.191	•	•
1947	0.177	0.242	•	•
1948	0.189	0.227	•	•
1949	0.194	0.264	•	•
1950	0.213	0.254	0.257	•
1951	0.201	0.274	0.227	•
1952	0.257	0.246	0.228	•
1953	0.266	0.265	0.251	•
1954	0.261	0.250	0.274	•
1955	0.268	0.268	0.229	0.211
1956	0.252	0.269	0.252	0.193
1957	0.299	0.301	0.259	0.207
1958	0.275	0.294	0.245	0.212
1959	0.238	0.238	0.247	0.190
1960	0.173	0.201	0.157	0.157
1961	0.218	0.212	0.190	0.132
1962	0.300	0.351	0.325	0.232
1963	0.315	0.326	0.285	0.231
1964	0.321	0.340	0.295	0.191
1965	0.323	0.294	0.279	0.250
1966	0.353	0.362	0.285	0.237
1967	0.335	0.266	0.276	0.208
1968	0.349	0.371	0.312	0.254
1969	0.336	0.332	0.278	0.230
1970	0.359	0.308	0.300	0.236
1971	0.340	0.348	0.268	0.226
1972	0.354	0.306	0.245	0.231
1973	0.356	0.318	0.239	0.188
1974	0.378	0.323	0.205	0.137
1975	0.341	0.295	0.191	0.098
1976	0.345	0.292	0.175	0.126
1977	0.365	0.242	0.127	0.091
1978	0.361	0.300	0.159	0.101
1979	0.425	0.282	0.146	0.101
1980	0.386	0.256	0.121	0.082
1981	0.433	0.266	0.130	0.082
1982	0.414	0.281	0.115	0.043

fertility rates, 1940-82

20-24	25-29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.572
•	•	•	3.788
•	•	•	4.579
•	•	•	4.413
•	•	•	5.013
•	•	•	5.277
•	•	•	5.127
•	•	•	5.199
•	•	•	5.588
•	•	•	5.637
•	•	•	5.615
•	•	•	5.573
•	•	•	6.130
•	•	•	5.911
•	•	•	5.275
0.113	•	•	4.158
0.096	•	•	4.385
0.110	•	•	6.820
0.183	•	•	6.946
0.131	0.043	0.012	6.665
0.120	0.043	0.034	6.714
0.153	0.054	0.003	7.230
0.113	0.039	0.013	6.255
0.135	0.044	0.011	7.386
0.121	0.046	0.007	6.752
0.112	0.046	0.008	6.344
0.119	0.024	0.004	6.644
0.135	0.033	0.003	6.533
0.085	0.015	0.010	6.056
0.077	0.024	0.004	5.739
0.056	0.021	0.004	5.026
0.050	0.020	0.001	5.048
0.051	0.014	•	4.452
0.041	0.015	0.002	4.897
0.037	0.017	0.003	5.052
0.044	0.012	0.001	4.513
0.043	0.015	0.004	4.866
0.027	0.004	0.002	4.431

Basic Table 50.A. Total Guangxi Province (20): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.244	.	.	.
1941	0.166	.	.	.
1942	0.229	.	.	.
1943	0.215	.	.	.
1944	0.239	.	.	.
1945	0.226	0.298	.	.
1946	0.209	0.260	.	.
1947	0.177	0.245	.	.
1948	0.203	0.258	.	.
1949	0.251	0.302	.	.
1950	0.248	0.287	0.227	.
1951	0.228	0.192	0.220	.
1952	0.289	0.307	0.271	.
1953	0.279	0.260	0.226	.
1954	0.306	0.288	0.245	.
1955	0.287	0.279	0.228	0.251
1956	0.274	0.261	0.254	0.199
1957	0.336	0.279	0.257	0.249
1958	0.324	0.329	0.277	0.221
1959	0.191	0.249	0.196	0.174
1960	0.240	0.217	0.219	0.212
1961	0.236	0.216	0.153	0.151
1962	0.332	0.381	0.282	0.193
1963	0.381	0.376	0.345	0.273
1964	0.379	0.326	0.343	0.218
1965	0.331	0.360	0.282	0.225
1966	0.403	0.370	0.285	0.247
1967	0.278	0.285	0.243	0.191
1968	0.435	0.342	0.289	0.257
1969	0.330	0.341	0.270	0.194
1970	0.324	0.295	0.274	0.220
1971	0.377	0.336	0.249	0.199
1972	0.321	0.331	0.232	0.155
1973	0.390	0.315	0.266	0.173
1974	0.414	0.305	0.245	0.197
1975	0.395	0.317	0.252	0.150
1976	0.367	0.296	0.175	0.125
1977	0.415	0.266	0.155	0.092
1978	0.391	0.250	0.151	0.074
1979	0.389	0.291	0.164	0.078
1980	0.434	0.267	0.138	0.072
1981	0.380	0.264	0.131	0.075
1982	0.485	0.252	0.159	0.082

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.687
.	.	.	5.074
.	.	.	4.636
.	.	.	4.974
.	.	.	5.888
.	.	.	5.472
.	.	.	4.517
.	.	.	6.226
.	.	.	5.389
.	.	.	5.940
.	.	.	6.037
.	.	.	5.690
.	.	.	6.441
.	.	.	6.604
.	.	.	4.696
0.113	.	.	5.184
0.096	.	.	4.419
0.094	.	.	6.636
0.170	.	.	8.002
0.133	0.047	0.030	7.374
0.156	0.054	0.004	7.057
0.172	0.061	0.015	7.761
0.099	0.042	0.003	5.706
0.153	0.052	0.009	7.685
0.138	0.046	0.008	6.634
0.126	0.055	0.007	6.510
0.128	0.043	0.007	6.694
0.104	0.043	0.007	5.967
0.118	0.028	0.006	6.487
0.110	0.036	.	6.531
0.077	0.020	0.002	6.067
0.073	0.021	0.002	5.295
0.036	0.026	0.002	4.957
0.040	0.014	.	4.595
0.053	0.010	0.003	4.940
0.026	0.001	0.002	4.696
0.035	0.007	0.001	4.471
0.033	0.006	.	5.087

Basic Table 50.B. Urban Guangxi Province (20): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.181	•	•	•
1941	0.178	•	•	•
1942	0.234	•	•	•
1943	0.242	•	•	•
1944	0.401	•	•	•
1945	0.204	0.181	•	•
1946	0.311	0.445	•	•
1947	0.255	0.201	•	•
1948	0.168	0.181	•	•
1949	0.351	0.368	•	•
1950	0.254	0.272	0.181	•
1951	0.437	0.259	0.133	•
1952	0.255	0.368	0.234	•
1953	0.496	0.337	0.242	•
1954	0.319	0.332	0.268	•
1955	0.351	0.220	0.272	0.226
1956	0.349	0.245	0.311	0.222
1957	0.389	0.300	0.510	0.134
1958	0.303	0.375	0.288	0.060
1959	0.345	0.212	0.176	0.067
1960	0.206	0.244	0.237	0.204
1961	0.424	0.152	0.087	0.052
1962	0.419	0.440	0.195	0.198
1963	0.417	0.285	0.315	0.168
1964	0.393	0.287	0.288	0.078
1965	0.379	0.299	0.122	0.051
1966	0.320	0.221	0.106	0.070
1967	0.296	0.227	0.085	0.030
1968	0.417	0.225	0.125	0.090
1969	0.339	0.227	0.057	0.091
1970	0.325	0.126	0.094	0.046
1971	0.442	0.219	0.037	•
1972	0.313	0.328	0.105	0.068
1973	0.316	0.155	0.112	0.018
1974	0.323	0.221	0.076	0.038
1975	0.355	0.113	0.063	0.019
1976	0.275	0.174	0.067	•
1977	0.465	0.136	0.033	•
1978	0.368	0.111	0.031	•
1979	0.381	0.097	0.029	0.015
1980	0.221	0.016	•	•
1981	0.237	0.061	0.027	•
1982	0.265	0.082	•	•

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.928
.	.	.	8.714
.	.	.	4.505
.	.	.	3.756
.	.	.	7.678
.	.	.	5.141
.	.	.	5.532
.	.	.	6.425
.	.	.	7.427
.	.	.	6.736
.	.	.	6.215
.	.	.	6.570
.	.	.	7.766
.	.	.	5.949
.	.	.	4.520
0.090	.	.	5.118
0.044	.	.	3.884
0.134	.	.	7.192
0.060	.	.	6.443
0.067	0.099	.	6.065
0.068	.	.	4.594
.	.	.	3.585
.	.	.	3.187
0.024	.	.	4.404
0.039	.	.	3.767
0.051	0.034	.	3.376
0.052	.	.	3.751
0.060	.	.	4.368
0.015	.	.	3.078
0.030	.	.	3.444
.	.	.	2.750
0.015	.	.	2.660
.	.	.	3.169
.	.	.	2.550
0.038	.	.	2.804
.	.	.	1.187
.	.	.	1.625
.	.	.	1.733

Basic Table 50.C. Rural Guangxi Province (20): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.248	.	.	.
1941	0.166	.	.	.
1942	0.229	.	.	.
1943	0.213	.	.	.
1944	0.228	.	.	.
1945	0.227	0.305	.	.
1946	0.200	0.250	.	.
1947	0.171	0.248	.	.
1948	0.206	0.264	.	.
1949	0.241	0.297	.	.
1950	0.248	0.288	0.229	.
1951	0.208	0.185	0.225	.
1952	0.293	0.302	0.274	.
1953	0.257	0.253	0.224	.
1954	0.305	0.284	0.244	.
1955	0.281	0.285	0.225	0.253
1956	0.267	0.262	0.249	0.198
1957	0.331	0.277	0.237	0.257
1958	0.326	0.324	0.276	0.234
1959	0.179	0.252	0.198	0.181
1960	0.243	0.215	0.217	0.213
1961	0.222	0.223	0.159	0.160
1962	0.325	0.376	0.291	0.193
1963	0.378	0.384	0.349	0.282
1964	0.378	0.329	0.348	0.232
1965	0.327	0.365	0.298	0.242
1966	0.410	0.381	0.303	0.264
1967	0.277	0.290	0.256	0.208
1968	0.437	0.351	0.303	0.274
1969	0.329	0.350	0.287	0.204
1970	0.324	0.309	0.288	0.238
1971	0.370	0.346	0.264	0.218
1972	0.322	0.331	0.241	0.163
1973	0.396	0.332	0.278	0.186
1974	0.421	0.314	0.258	0.209
1975	0.398	0.340	0.267	0.161
1976	0.374	0.310	0.184	0.134
1977	0.411	0.279	0.166	0.099
1978	0.393	0.261	0.164	0.079
1979	0.390	0.306	0.179	0.083
1980	0.461	0.285	0.154	0.078
1981	0.400	0.279	0.143	0.082
1982	0.522	0.267	0.175	0.090

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.801
.	.	.	4.814
.	.	.	4.645
.	.	.	5.064
.	.	.	5.752
.	.	.	5.497
.	.	.	4.437
.	.	.	6.210
.	.	.	5.220
.	.	.	5.874
.	.	.	6.022
.	.	.	5.616
.	.	.	6.330
.	.	.	6.658
.	.	.	4.710
0.115	.	.	5.190
0.099	.	.	4.462
0.091	.	.	6.591
0.178	.	.	8.130
0.137	0.044	0.032	7.498
0.162	0.057	0.005	7.276
0.188	0.064	0.016	8.120
0.107	0.044	0.004	5.928
0.165	0.056	0.009	7.972
0.148	0.049	0.008	6.877
0.134	0.056	0.008	6.784
0.135	0.047	0.007	6.938
0.109	0.047	0.007	6.100
0.129	0.031	0.007	6.795
0.118	0.039	.	6.802
0.084	0.022	0.002	6.373
0.079	0.023	0.002	5.530
0.039	0.028	0.002	5.125
0.043	0.016	.	4.780
0.054	0.011	0.004	5.132
0.027	0.002	0.002	5.044
0.038	0.007	0.002	4.754
0.035	0.006	.	5.476

Basic Table 51.A. Total Sichuan Province (21): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.257	.	.	.
1941	0.276	.	.	.
1942	0.275	.	.	.
1943	0.261	.	.	.
1944	0.271	.	.	.
1945	0.266	0.278	.	.
1946	0.283	0.316	.	.
1947	0.288	0.279	.	.
1948	0.289	0.299	.	.
1949	0.304	0.335	.	.
1950	0.269	0.300	0.257	.
1951	0.307	0.261	0.241	.
1952	0.355	0.329	0.300	.
1953	0.345	0.323	0.263	.
1954	0.361	0.289	0.271	.
1955	0.337	0.325	0.272	0.243
1956	0.314	0.305	0.263	0.218
1957	0.316	0.317	0.285	0.228
1958	0.317	0.324	0.275	0.219
1959	0.187	0.202	0.166	0.147
1960	0.143	0.136	0.134	0.112
1961	0.131	0.138	0.114	0.084
1962	0.215	0.258	0.219	0.154
1963	0.392	0.422	0.380	0.274
1964	0.364	0.323	0.294	0.208
1965	0.322	0.333	0.263	0.234
1966	0.369	0.333	0.277	0.257
1967	0.303	0.306	0.251	0.203
1968	0.385	0.372	0.278	0.251
1969	0.343	0.342	0.289	0.235
1970	0.359	0.333	0.270	0.222
1971	0.358	0.347	0.291	0.200
1972	0.347	0.302	0.264	0.195
1973	0.373	0.307	0.247	0.165
1974	0.382	0.292	0.228	0.150
1975	0.393	0.266	0.189	0.128
1976	0.333	0.224	0.124	0.087
1977	0.316	0.161	0.088	0.063
1978	0.292	0.131	0.062	0.025
1979	0.319	0.129	0.053	0.025
1980	0.271	0.081	0.025	0.010
1981	0.374	0.117	0.045	0.017
1982	0.330	0.117	0.037	0.018

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.568
.	.	.	6.264
.	.	.	5.732
.	.	.	6.049
.	.	.	6.678
.	.	.	5.965
.	.	.	5.684
.	.	.	6.980
.	.	.	6.574
.	.	.	6.448
.	.	.	6.746
.	.	.	6.316
.	.	.	6.590
.	.	.	6.524
.	.	.	4.038
0.085	.	.	3.162
0.048	.	.	2.678
0.077	.	.	4.809
0.174	.	.	8.521
0.144	0.071	0.006	7.054
0.137	0.045	0.008	6.708
0.135	0.047	0.002	7.106
0.137	0.039	0.006	6.232
0.135	0.043	0.015	7.395
0.135	0.046	0.007	6.983
0.147	0.034	0.010	6.875
0.134	0.036	0.004	6.843
0.110	0.036	0.004	6.286
0.101	0.023	0.003	6.091
0.099	0.025	0.002	5.896
0.064	0.026	0.001	5.335
0.051	0.021	0.001	4.205
0.024	0.007	0.001	3.299
0.013	0.004	0.001	2.632
0.018	0.001	.	2.725
0.008	0.001	0.000	1.980
0.014	0.004	0.000	2.856
0.011	0.002	.	2.575

Basic Table 51.B. Urban Sichuan Province (21): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.262	.	.	.
1941	0.272	.	.	.
1942	0.312	.	.	.
1943	0.245	.	.	.
1944	0.236	.	.	.
1945	0.306	0.200	.	.
1946	0.288	0.279	.	.
1947	0.267	0.260	.	.
1948	0.320	0.282	.	.
1949	0.306	0.318	.	.
1950	0.340	0.226	0.262	.
1951	0.346	0.221	0.199	.
1952	0.382	0.310	0.254	.
1953	0.345	0.341	0.234	.
1954	0.390	0.264	0.241	.
1955	0.372	0.311	0.260	0.158
1956	0.325	0.333	0.221	0.159
1957	0.375	0.355	0.281	0.197
1958	0.345	0.286	0.233	0.154
1959	0.281	0.217	0.113	0.120
1960	0.237	0.153	0.134	0.084
1961	0.217	0.130	0.090	0.049
1962	0.311	0.212	0.152	0.110
1963	0.425	0.421	0.324	0.184
1964	0.373	0.224	0.220	0.140
1965	0.317	0.252	0.132	0.126
1966	0.292	0.169	0.115	0.135
1967	0.321	0.204	0.112	0.061
1968	0.488	0.279	0.122	0.114
1969	0.421	0.200	0.158	0.076
1970	0.364	0.210	0.088	0.064
1971	0.335	0.135	0.064	0.039
1972	0.284	0.127	0.066	0.042
1973	0.255	0.195	0.051	0.015
1974	0.349	0.115	0.056	0.025
1975	0.346	0.104	0.046	0.015
1976	0.309	0.079	0.030	0.013
1977	0.226	0.034	0.004	0.007
1978	0.200	0.046	0.018	.
1979	0.205	0.050	0.006	0.004
1980	0.224	0.020	0.003	.
1981	0.338	0.003	.	.
1982	0.267	.	.	.

fertility rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.739
•	•	•	5.928
•	•	•	5.521
•	•	•	6.143
•	•	•	6.646
•	•	•	5.903
•	•	•	5.338
•	•	•	6.748
•	•	•	6.649
•	•	•	6.294
•	•	•	6.351
•	•	•	6.026
•	•	•	7.014
•	•	•	5.881
•	•	•	4.188
0.110	•	•	3.730
0.060	•	•	2.820
0.029	•	•	4.201
0.144	•	•	7.778
0.053	0.041	•	5.250
0.092	0.021	•	4.700
0.064	0.020	•	3.975
0.028	0.017	0.009	3.768
0.052	0.011	•	5.326
0.039	0.010	•	4.516
0.043	0.004	•	3.862
0.038	•	•	3.054
0.022	0.004	•	2.722
0.021	•	•	2.688
0.007	0.003	•	2.776
0.008	•	•	2.597
0.005	0.005	•	2.205
•	•	•	1.356
0.002	•	•	1.332
0.003	•	•	1.337
•	•	•	1.236
•	•	•	1.706
•	•	•	1.333

Basic Table 51.C. Rural Sichuan Province (21): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.257	•	•	•
1941	0.276	•	•	•
1942	0.269	•	•	•
1943	0.264	•	•	•
1944	0.277	•	•	•
1945	0.258	0.288	•	•
1946	0.282	0.321	•	•
1947	0.292	0.282	•	•
1948	0.283	0.302	•	•
1949	0.304	0.338	•	•
1950	0.255	0.315	0.256	•
1951	0.299	0.269	0.246	•
1952	0.349	0.333	0.307	•
1953	0.345	0.319	0.268	•
1954	0.355	0.293	0.277	•
1955	0.329	0.328	0.274	0.254
1956	0.311	0.299	0.272	0.226
1957	0.300	0.309	0.286	0.233
1958	0.310	0.333	0.283	0.230
1959	0.164	0.199	0.177	0.152
1960	0.122	0.132	0.134	0.117
1961	0.115	0.140	0.119	0.091
1962	0.201	0.270	0.232	0.163
1963	0.388	0.423	0.391	0.292
1964	0.363	0.346	0.311	0.222
1965	0.322	0.350	0.294	0.256
1966	0.378	0.363	0.317	0.282
1967	0.301	0.321	0.288	0.232
1968	0.372	0.383	0.320	0.281
1969	0.332	0.358	0.320	0.271
1970	0.358	0.347	0.309	0.260
1971	0.361	0.370	0.332	0.240
1972	0.355	0.322	0.292	0.235
1973	0.387	0.321	0.271	0.205
1974	0.385	0.318	0.248	0.180
1975	0.399	0.289	0.206	0.152
1976	0.336	0.245	0.135	0.100
1977	0.328	0.177	0.098	0.071
1978	0.304	0.141	0.067	0.028
1979	0.333	0.138	0.060	0.028
1980	0.277	0.088	0.028	0.011
1981	0.380	0.131	0.051	0.019
1982	0.343	0.132	0.042	0.021

fertility rates, 1940-82

20-24	25-29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.698
•	•	•	6.319
•	•	•	5.767
•	•	•	6.033
•	•	•	6.683
•	•	•	5.975
•	•	•	5.746
•	•	•	7.021
•	•	•	6.560
•	•	•	6.476
•	•	•	6.820
•	•	•	6.371
•	•	•	6.506
•	•	•	6.652
•	•	•	4.009
0.082	•	•	3.052
0.046	•	•	2.650
0.084	•	•	4.922
0.179	•	•	8.655
0.161	0.075	0.007	7.423
0.146	0.048	0.009	7.126
0.150	0.051	0.003	7.714
0.160	0.043	0.006	6.751
0.151	0.048	0.017	7.857
0.153	0.052	0.008	7.475
0.167	0.041	0.011	7.464
0.154	0.043	0.005	7.516
0.128	0.043	0.004	6.895
0.117	0.027	0.003	6.660
0.120	0.030	0.003	6.421
0.077	0.031	0.002	5.776
0.062	0.024	0.002	4.515
0.030	0.008	0.002	3.568
0.016	0.005	0.001	2.807
0.021	0.002	•	2.909
0.010	0.001	0.001	2.079
0.017	0.004	0.001	3.014
0.012	0.003	•	2.766

Basic Table 52.A. Total Guizhou Province (22): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.238	•	•	•
1941	0.274	•	•	•
1942	0.245	•	•	•
1943	0.281	•	•	•
1944	0.280	•	•	•
1945	0.213	0.276	•	•
1946	0.277	0.317	•	•
1947	0.286	0.245	•	•
1948	0.286	0.290	•	•
1949	0.318	0.316	•	•
1950	0.264	0.274	0.255	•
1951	0.227	0.259	0.228	•
1952	0.289	0.342	0.270	•
1953	0.311	0.277	0.240	•
1954	0.352	0.295	0.340	•
1955	0.314	0.355	0.246	0.248
1956	0.315	0.296	0.275	0.231
1957	0.319	0.321	0.302	0.185
1958	0.289	0.343	0.256	0.222
1959	0.233	0.265	0.190	0.168
1960	0.164	0.204	0.161	0.140
1961	0.141	0.171	0.143	0.077
1962	0.317	0.317	0.294	0.195
1963	0.334	0.388	0.364	0.299
1964	0.328	0.296	0.308	0.211
1965	0.339	0.359	0.318	0.231
1966	0.343	0.336	0.310	0.271
1967	0.274	0.311	0.297	0.222
1968	0.374	0.413	0.344	0.291
1969	0.318	0.346	0.293	0.232
1970	0.328	0.365	0.317	0.264
1971	0.356	0.350	0.284	0.240
1972	0.300	0.314	0.309	0.207
1973	0.334	0.362	0.301	0.265
1974	0.378	0.360	0.298	0.238
1975	0.381	0.313	0.268	0.231
1976	0.368	0.285	0.214	0.162
1977	0.365	0.268	0.212	0.142
1978	0.322	0.289	0.164	0.088
1979	0.404	0.252	0.157	0.118
1980	0.309	0.283	0.151	0.091
1981	0.400	0.262	0.175	0.096
1982	0.375	0.259	0.219	0.164

fertility rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.324
.	.	.	6.294
.	.	.	5.199
.	.	.	5.930
.	.	.	6.449
.	.	.	5.726
.	.	.	5.191
.	.	.	6.523
.	.	.	5.657
.	.	.	7.064
.	.	.	6.714
.	.	.	6.452
.	.	.	6.503
.	.	.	6.423
.	.	.	4.950
0.073	.	.	3.865
0.073	.	.	3.140
0.115	.	.	6.425
0.166	.	.	8.090
0.111	0.037	0.024	6.578
0.148	0.056	0.008	7.295
0.134	0.036	0.012	7.210
0.150	0.039	0.010	6.513
0.194	0.053	0.004	8.364
0.151	0.036	0.007	6.920
0.161	0.036	0.003	7.374
0.152	0.044	0.010	7.176
0.163	0.028	0.003	6.625
0.138	0.030	0.015	7.219
0.154	0.065	0.003	7.481
0.153	0.048	0.011	7.029
0.100	0.035	.	5.822
0.076	0.034	0.005	5.510
0.059	0.020	.	4.713
0.061	0.016	0.004	5.066
0.046	0.011	0.002	4.465
0.068	0.019	0.002	5.114
0.042	0.034	0.003	5.481

Basic Table 52.B. Urban Guizhou Province (22): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.255	•	•	•
1941	0.247	•	•	•
1942	0.368	•	•	•
1943	0.176	•	•	•
1944	0.280	•	•	•
1945	0.270	0.332	•	•
1946	0.243	0.164	•	•
1947	0.388	0.221	•	•
1948	0.222	0.193	•	•
1949	0.375	0.315	•	•
1950	0.283	0.222	0.230	•
1951	0.169	0.214	0.185	•
1952	0.303	0.347	0.166	•
1953	0.335	0.245	0.176	•
1954	0.332	0.257	0.280	•
1955	0.306	0.260	0.191	0.128
1956	0.249	0.221	0.214	0.185
1957	0.335	0.268	0.180	0.166
1958	0.318	0.219	0.257	0.176
1959	0.328	0.214	0.246	0.070
1960	0.174	0.136	0.125	0.095
1961	0.173	0.141	0.078	0.071
1962	0.313	0.212	0.163	0.125
1963	0.322	0.294	0.242	0.175
1964	0.417	0.231	0.154	0.128
1965	0.349	0.212	0.193	0.170
1966	0.345	0.196	0.205	0.052
1967	0.243	0.235	0.089	0.070
1968	0.393	0.268	0.129	0.119
1969	0.419	0.289	0.109	0.095
1970	0.357	0.201	0.125	0.113
1971	0.310	0.211	0.104	0.054
1972	0.216	0.257	0.089	0.011
1973	0.331	0.210	0.075	0.024
1974	0.355	0.183	0.096	0.036
1975	0.347	0.132	•	0.025
1976	0.258	0.113	0.011	•
1977	0.370	0.037	0.036	0.022
1978	0.260	0.187	•	•
1979	0.311	0.046	0.039	•
1980	0.241	0.045	•	•
1981	0.271	0.100	•	•
1982	0.211	•	•	•

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.692
.	.	.	3.861
.	.	.	5.495
.	.	.	4.220
.	.	.	6.940
.	.	.	5.306
.	.	.	4.272
.	.	.	5.877
.	.	.	5.276
.	.	.	6.285
.	.	.	5.098
.	.	.	5.087
.	.	.	5.470
.	.	.	5.626
.	.	.	4.899
0.051	.	.	3.016
0.021	.	.	2.497
0.092	.	.	4.088
0.088	.	.	5.818
0.052	.	.	4.917
0.016	0.051	.	4.952
0.043	0.021	.	4.309
0.028	0.018	.	3.414
0.047	.	.	4.762
0.011	0.035	.	4.789
0.034	.	0.026	4.278
.	.	.	3.396
.	0.014	.	2.989
0.023	.	0.018	2.403
.	0.021	.	3.400
0.011	.	0.016	2.650
.	.	.	1.907
0.011	.	.	2.631
.	.	.	2.235
0.012	.	.	2.044
.	.	.	1.429
.	0.011	.	1.909
.	.	.	1.057

Basic Table 52.C. Rural Guizhou Province (22): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.235	•	•	•
1941	0.280	•	•	•
1942	0.221	•	•	•
1943	0.303	•	•	•
1944	0.280	•	•	•
1945	0.201	0.268	•	•
1946	0.285	0.347	•	•
1947	0.264	0.250	•	•
1948	0.301	0.310	•	•
1949	0.306	0.316	•	•
1950	0.261	0.286	0.259	•
1951	0.236	0.269	0.236	•
1952	0.287	0.341	0.290	•
1953	0.307	0.284	0.253	•
1954	0.356	0.304	0.352	•
1955	0.316	0.372	0.258	0.268
1956	0.328	0.307	0.288	0.240
1957	0.316	0.330	0.329	0.189
1958	0.285	0.365	0.256	0.231
1959	0.218	0.275	0.178	0.189
1960	0.163	0.217	0.168	0.150
1961	0.136	0.176	0.154	0.078
1962	0.317	0.336	0.316	0.211
1963	0.336	0.403	0.385	0.330
1964	0.315	0.306	0.335	0.229
1965	0.338	0.381	0.341	0.242
1966	0.343	0.358	0.330	0.305
1967	0.279	0.323	0.334	0.247
1968	0.372	0.435	0.377	0.321
1969	0.306	0.355	0.321	0.256
1970	0.325	0.390	0.346	0.292
1971	0.360	0.371	0.312	0.275
1972	0.308	0.321	0.344	0.242
1973	0.334	0.380	0.336	0.303
1974	0.380	0.382	0.328	0.269
1975	0.385	0.333	0.308	0.262
1976	0.379	0.303	0.244	0.187
1977	0.365	0.286	0.237	0.160
1978	0.331	0.299	0.183	0.101
1979	0.419	0.271	0.171	0.136
1980	0.320	0.307	0.168	0.104
1981	0.421	0.279	0.193	0.111
1982	0.400	0.291	0.240	0.186

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.096
.	.	.	6.729
.	.	.	5.146
.	.	.	6.243
.	.	.	6.361
.	.	.	5.799
.	.	.	5.347
.	.	.	6.634
.	.	.	5.961
.	.	.	7.203
.	.	.	7.003
.	.	.	6.691
.	.	.	6.683
.	.	.	6.561
.	.	.	4.959
0.077	.	.	4.011
0.083	.	.	3.251
0.120	.	.	6.721
0.182	.	.	8.474
0.123	0.042	0.025	6.880
0.177	0.057	0.008	7.722
0.153	0.039	0.013	7.712
0.177	0.044	0.011	7.068
0.230	0.064	0.005	9.020
0.182	0.036	0.008	7.322
0.185	0.044	.	7.907
0.176	0.053	0.012	7.797
0.190	0.031	0.004	7.200
0.157	0.037	0.014	7.807
0.181	0.075	0.004	8.087
0.180	0.057	0.010	7.675
0.119	0.041	.	6.367
0.087	0.039	0.006	5.902
0.068	0.024	.	5.037
0.069	0.019	0.005	5.446
0.052	0.013	0.002	4.632
0.079	0.020	0.002	5.522
0.048	0.040	0.004	6.030

Basic Table 53.A. Total Yunnan Province (23): duration-specific fertility

Birth year of child	0-4	5-9	10-14	15-19
1940	0.218	.	.	.
1941	0.233	.	.	.
1942	0.264	.	.	.
1943	0.274	.	.	.
1944	0.259	.	.	.
1945	0.251	0.253	.	.
1946	0.303	0.307	.	.
1947	0.300	0.300	.	.
1948	0.307	0.288	.	.
1949	0.331	0.361	.	.
1950	0.301	0.297	0.253	.
1951	0.290	0.283	0.248	.
1952	0.361	0.288	0.302	.
1953	0.291	0.350	0.251	.
1954	0.366	0.336	0.316	.
1955	0.347	0.361	0.284	0.223
1956	0.283	0.344	0.251	0.218
1957	0.370	0.300	0.271	0.222
1958	0.301	0.307	0.274	0.255
1959	0.194	0.241	0.222	0.154
1960	0.223	0.215	0.235	0.158
1961	0.215	0.217	0.168	0.117
1962	0.360	0.394	0.321	0.225
1963	0.366	0.375	0.337	0.302
1964	0.378	0.349	0.306	0.211
1965	0.363	0.331	0.304	0.218
1966	0.354	0.341	0.294	0.221
1967	0.307	0.326	0.236	0.187
1968	0.372	0.337	0.328	0.242
1969	0.348	0.360	0.268	0.222
1970	0.345	0.336	0.263	0.196
1971	0.368	0.307	0.288	0.196
1972	0.378	0.303	0.238	0.184
1973	0.336	0.280	0.271	0.177
1974	0.380	0.311	0.211	0.156
1975	0.394	0.297	0.232	0.179
1976	0.380	0.302	0.216	0.194
1977	0.388	0.297	0.211	0.168
1978	0.334	0.267	0.205	0.147
1979	0.362	0.232	0.166	0.118
1980	0.309	0.188	0.128	0.075
1981	0.364	0.176	0.162	0.105
1982	0.363	0.196	0.137	0.111

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.166
•	•	•	6.246
•	•	•	6.112
•	•	•	5.975
•	•	•	7.247
•	•	•	6.052
•	•	•	5.844
•	•	•	6.685
•	•	•	6.435
•	•	•	7.273
•	•	•	6.962
•	•	•	6.314
•	•	•	6.660
•	•	•	6.573
•	•	•	4.708
0.105	•	•	4.860
0.072	•	•	4.081
0.118	•	•	7.375
0.207	•	•	8.256
0.140	0.045	0.019	7.244
0.156	0.062	0.005	7.192
0.133	0.041	0.008	6.952
0.101	0.050	0.003	6.050
0.122	0.058	0.003	7.312
0.151	0.051	0.006	7.034
0.110	0.044	0.003	6.484
0.109	0.030	0.003	6.503
0.096	0.029	•	6.142
0.109	0.038	0.005	6.076
0.112	0.024	0.009	6.016
0.083	0.019	•	6.020
0.077	0.022	•	5.952
0.074	0.019	0.002	5.795
0.089	0.025	0.003	5.351
0.059	0.016	•	4.764
0.050	0.011	0.001	3.809
0.052	0.011	•	4.350
0.063	0.014	•	4.419

Basic Table 53.B. Urban Yunnan Province (23): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.256	.	.	.
1941	0.200	.	.	.
1942	0.287	.	.	.
1943	0.200	.	.	.
1944	0.310	.	.	.
1945	0.202	0.277	.	.
1946	0.302	0.301	.	.
1947	0.320	0.287	.	.
1948	0.240	0.273	.	.
1949	0.303	0.418	.	.
1950	0.293	0.277	0.213	.
1951	0.359	0.257	0.221	.
1952	0.305	0.289	0.215	.
1953	0.376	0.269	0.273	.
1954	0.304	0.295	0.341	.
1955	0.420	0.310	0.227	0.128
1956	0.220	0.367	0.224	0.140
1957	0.513	0.267	0.247	0.197
1958	0.366	0.342	0.231	0.219
1959	0.236	0.290	0.134	0.124
1960	0.245	0.199	0.204	0.101
1961	0.253	0.220	0.152	0.101
1962	0.409	0.303	0.201	0.134
1963	0.449	0.402	0.301	0.269
1964	0.434	0.227	0.184	0.214
1965	0.401	0.304	0.183	0.090
1966	0.303	0.253	0.126	0.128
1967	0.247	0.097	0.050	0.045
1968	0.430	0.327	0.192	0.075
1969	0.385	0.231	0.138	0.092
1970	0.292	0.222	0.137	0.046
1971	0.368	0.218	0.107	0.055
1972	0.287	0.137	0.136	0.084
1973	0.431	0.267	0.094	0.046
1974	0.388	0.120	0.058	0.020
1975	0.315	0.125	0.032	0.039
1976	0.437	0.156	0.061	0.029
1977	0.372	0.121	0.082	0.010
1978	0.309	0.133	0.059	0.009
1979	0.203	0.053	0.040	0.010
1980	0.215	0.057	.	.
1981	0.206	0.012	.	0.012
1982	0.299	0.060	.	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.471
.	.	.	6.349
.	.	.	6.208
.	.	.	5.600
.	.	.	8.242
.	.	.	5.671
.	.	.	5.899
.	.	.	5.837
.	.	.	6.546
.	.	.	6.995
.	.	.	6.194
.	.	.	5.599
.	.	.	6.970
.	.	.	6.718
.	.	.	4.554
0.107	.	.	4.447
0.060	.	.	4.066
0.072	.	.	5.775
0.182	.	.	8.336
0.124	.	0.050	6.160
0.113	0.085	.	5.887
0.067	0.020	.	4.482
0.041	.	.	2.405
0.038	0.036	.	5.496
0.036	0.015	.	4.488
0.016	0.025	.	3.691
0.048	0.022	.	4.092
0.007	.	.	3.262
0.020	.	.	4.287
0.014	.	.	2.996
0.008	.	.	2.594
0.008	.	.	3.450
0.008	.	.	2.965
.	.	.	2.550
0.020	.	.	1.628
.	.	.	1.362
.	.	.	1.151
.	.	.	1.793

Basic Table 53.C. Rural Yunnan Province (23): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.212	.	.	.
1941	0.238	.	.	.
1942	0.261	.	.	.
1943	0.285	.	.	.
1944	0.250	.	.	.
1945	0.260	0.249	.	.
1946	0.303	0.308	.	.
1947	0.296	0.302	.	.
1948	0.322	0.290	.	.
1949	0.338	0.351	.	.
1950	0.303	0.301	0.258	.
1951	0.275	0.288	0.252	.
1952	0.374	0.287	0.315	.
1953	0.271	0.369	0.247	.
1954	0.381	0.345	0.312	.
1955	0.331	0.372	0.296	0.237
1956	0.296	0.338	0.257	0.229
1957	0.342	0.308	0.276	0.226
1958	0.289	0.299	0.283	0.261
1959	0.187	0.230	0.241	0.159
1960	0.220	0.219	0.241	0.169
1961	0.209	0.216	0.172	0.120
1962	0.353	0.412	0.349	0.245
1963	0.355	0.370	0.346	0.309
1964	0.370	0.369	0.334	0.210
1965	0.358	0.336	0.330	0.247
1966	0.359	0.355	0.329	0.242
1967	0.313	0.360	0.273	0.220
1968	0.367	0.338	0.353	0.282
1969	0.344	0.378	0.290	0.253
1970	0.350	0.350	0.284	0.229
1971	0.368	0.317	0.317	0.226
1972	0.384	0.320	0.253	0.204
1973	0.330	0.281	0.297	0.201
1974	0.379	0.330	0.232	0.179
1975	0.400	0.313	0.257	0.202
1976	0.375	0.314	0.233	0.220
1977	0.390	0.309	0.224	0.192
1978	0.337	0.276	0.218	0.167
1979	0.381	0.243	0.179	0.133
1980	0.320	0.198	0.139	0.084
1981	0.383	0.191	0.175	0.115
1982	0.370	0.212	0.146	0.122

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.114
.	.	.	6.228
.	.	.	6.095
.	.	.	6.042
.	.	.	7.064
.	.	.	6.125
.	.	.	5.833
.	.	.	6.850
.	.	.	6.413
.	.	.	7.329
.	.	.	7.114
.	.	.	6.455
.	.	.	6.599
.	.	.	6.545
.	.	.	4.737
0.105	.	.	4.939
0.073	.	.	4.084
0.125	.	.	7.672
0.210	.	.	8.242
0.143	0.053	0.015	7.474
0.164	0.058	0.006	7.493
0.147	0.044	0.009	7.419
0.114	0.057	0.004	6.704
0.141	0.061	0.003	7.728
0.177	0.057	0.007	7.527
0.131	0.048	0.003	6.970
0.123	0.031	0.003	6.922
0.117	0.036	.	6.567
0.130	0.047	0.005	6.451
0.135	0.029	0.010	6.474
0.099	0.024	.	6.469
0.092	0.026	.	6.300
0.088	0.024	0.002	6.141
0.105	0.031	0.004	5.692
0.065	0.020	.	5.103
0.058	0.013	0.002	4.073
0.061	0.013	.	4.690
0.072	0.017	.	4.696

Basic Table 54.A. Total Shaanxi Province (25): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.204	.	.	.
1941	0.232	.	.	.
1942	0.237	.	.	.
1943	0.236	.	.	.
1944	0.271	.	.	.
1945	0.215	0.239	.	.
1946	0.263	0.297	.	.
1947	0.311	0.260	.	.
1948	0.201	0.275	.	.
1949	0.249	0.289	.	.
1950	0.250	0.248	0.236	.
1951	0.278	0.263	0.240	.
1952	0.308	0.268	0.283	.
1953	0.288	0.270	0.267	.
1954	0.314	0.314	0.273	.
1955	0.293	0.309	0.286	0.204
1956	0.292	0.273	0.261	0.195
1957	0.348	0.333	0.295	0.260
1958	0.321	0.288	0.249	0.217
1959	0.249	0.248	0.222	0.135
1960	0.221	0.289	0.235	0.181
1961	0.216	0.183	0.218	0.170
1962	0.316	0.385	0.301	0.207
1963	0.416	0.349	0.294	0.268
1964	0.319	0.315	0.263	0.213
1965	0.284	0.261	0.267	0.198
1966	0.347	0.351	0.264	0.205
1967	0.314	0.269	0.260	0.188
1968	0.361	0.374	0.279	0.225
1969	0.347	0.298	0.237	0.197
1970	0.339	0.289	0.263	0.187
1971	0.345	0.292	0.247	0.147
1972	0.323	0.308	0.225	0.192
1973	0.319	0.250	0.229	0.132
1974	0.357	0.292	0.180	0.111
1975	0.284	0.237	0.138	0.093
1976	0.364	0.220	0.123	0.075
1977	0.322	0.190	0.108	0.054
1978	0.336	0.202	0.128	0.043
1979	0.384	0.223	0.108	0.038
1980	0.304	0.161	0.079	0.033
1981	0.354	0.148	0.071	0.018
1982	0.354	0.165	0.071	0.016

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.762
.	.	.	5.885
.	.	.	5.545
.	.	.	5.246
.	.	.	5.700
.	.	.	5.255
.	.	.	5.550
.	.	.	6.142
.	.	.	5.925
.	.	.	6.437
.	.	.	6.315
.	.	.	5.898
.	.	.	7.070
.	.	.	6.218
.	.	.	4.901
0.135	.	.	5.486
0.075	.	.	4.467
0.121	.	.	6.890
0.196	.	.	7.850
0.156	0.061	0.006	6.667
0.124	0.037	0.013	5.921
0.120	0.047	0.017	6.757
0.119	0.039	.	5.947
0.127	0.056	0.003	7.128
0.109	0.044	0.008	6.195
0.132	0.030	0.012	6.265
0.122	0.027	0.002	5.915
0.121	0.029	0.002	6.004
0.079	0.022	0.011	5.208
0.057	0.028	.	5.126
0.058	0.014	0.002	4.128
0.045	0.018	.	4.222
0.023	0.007	0.004	3.539
0.031	0.009	0.004	3.764
0.027	0.009	0.002	3.957
0.006	0.002	0.002	2.934
0.014	0.004	0.002	3.053
0.009	0.007	.	3.114

Basic Table 54.B. Urban Shaanxi Province (25): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.154	•	•	•
1941	0.237	•	•	•
1942	0.207	•	•	•
1943	0.148	•	•	•
1944	0.307	•	•	•
1945	0.217	0.273	•	•
1946	0.285	0.288	•	•
1947	0.326	0.177	•	•
1948	0.207	0.282	•	•
1949	0.270	0.246	•	•
1950	0.208	0.152	0.120	•
1951	0.265	0.275	0.187	•
1952	0.284	0.240	0.310	•
1953	0.244	0.216	0.242	•
1954	0.322	0.337	0.282	•
1955	0.219	0.241	0.260	0.102
1956	0.286	0.240	0.304	0.220
1957	0.415	0.363	0.268	0.163
1958	0.271	0.244	0.207	0.202
1959	0.257	0.251	0.194	0.123
1960	0.224	0.274	0.191	0.119
1961	0.204	0.136	0.166	0.157
1962	0.324	0.321	0.315	0.182
1963	0.362	0.390	0.312	0.207
1964	0.294	0.193	0.228	0.152
1965	0.337	0.243	0.149	0.083
1966	0.226	0.224	0.193	0.058
1967	0.273	0.151	0.181	0.095
1968	0.293	0.354	0.227	0.107
1969	0.317	0.244	0.173	0.133
1970	0.353	0.195	0.178	0.055
1971	0.351	0.172	0.145	0.064
1972	0.336	0.211	0.079	0.074
1973	0.278	0.140	0.102	0.038
1974	0.363	0.083	0.017	0.019
1975	0.295	0.149	0.080	0.013
1976	0.359	0.085	0.032	0.033
1977	0.402	0.128	0.037	0.007
1978	0.309	0.139	0.070	0.016
1979	0.224	0.117	0.028	0.008
1980	0.268	0.062	0.014	•
1981	0.215	0.093	0.012	0.011
1982	0.271	0.040	0.024	•

fertility rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	5.480
•	•	•	6.063
•	•	•	4.483
•	•	•	5.578
•	•	•	5.300
•	•	•	3.368
•	•	•	5.276
•	•	•	6.167
•	•	•	5.166
•	•	•	6.925
•	•	•	4.819
•	•	•	6.177
•	•	•	6.965
•	•	•	5.399
•	•	•	4.785
0.068	•	•	4.554
0.034	•	•	3.615
0.044	•	•	6.153
0.134	•	•	7.314
0.086	0.020	•	4.859
0.076	•	•	4.441
0.029	0.017	0.031	3.897
0.038	0.015	•	3.764
0.054	0.013	•	5.244
0.017	0.012	0.020	4.583
0.083	•	•	4.319
0.050	•	•	3.914
0.047	•	•	3.738
0.030	•	•	2.941
0.008	•	•	2.446
•	•	•	2.688
0.021	•	•	2.651
•	•	•	2.871
0.013	•	•	2.730
•	•	0.008	1.923
•	•	•	1.716
•	•	•	1.653
•	•	•	1.674

Basic Table 54.C. Rural Shaanxi Province (25): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.213	.	.	.
1941	0.231	.	.	.
1942	0.243	.	.	.
1943	0.253	.	.	.
1944	0.263	.	.	.
1945	0.215	0.233	.	.
1946	0.258	0.298	.	.
1947	0.307	0.275	.	.
1948	0.199	0.274	.	.
1949	0.243	0.298	.	.
1950	0.261	0.270	0.256	.
1951	0.282	0.260	0.249	.
1952	0.314	0.275	0.278	.
1953	0.302	0.284	0.271	.
1954	0.312	0.308	0.271	.
1955	0.318	0.327	0.292	0.221
1956	0.295	0.282	0.250	0.190
1957	0.324	0.325	0.302	0.278
1958	0.339	0.302	0.260	0.220
1959	0.246	0.247	0.230	0.138
1960	0.220	0.294	0.246	0.195
1961	0.219	0.199	0.231	0.173
1962	0.314	0.408	0.297	0.213
1963	0.428	0.335	0.288	0.284
1964	0.324	0.356	0.274	0.230
1965	0.274	0.267	0.308	0.227
1966	0.366	0.390	0.290	0.242
1967	0.321	0.299	0.288	0.214
1968	0.369	0.379	0.298	0.261
1969	0.350	0.309	0.259	0.217
1970	0.338	0.307	0.289	0.233
1971	0.345	0.311	0.278	0.176
1972	0.322	0.322	0.262	0.234
1973	0.324	0.264	0.258	0.164
1974	0.357	0.316	0.213	0.142
1975	0.283	0.246	0.149	0.118
1976	0.365	0.235	0.137	0.087
1977	0.309	0.197	0.119	0.066
1978	0.341	0.209	0.135	0.049
1979	0.413	0.234	0.117	0.045
1980	0.310	0.172	0.086	0.040
1981	0.375	0.155	0.078	0.019
1982	0.364	0.185	0.076	0.019

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.633
•	•	•	5.853
•	•	•	5.745
•	•	•	5.183
•	•	•	5.780
•	•	•	5.639
•	•	•	5.607
•	•	•	6.136
•	•	•	6.091
•	•	•	6.327
•	•	•	6.662
•	•	•	5.832
•	•	•	7.096
•	•	•	6.420
•	•	•	4.929
0.147	•	•	5.717
0.082	•	•	4.680
0.135	•	•	7.071
0.207	•	•	7.981
0.171	0.067	0.006	7.141
0.135	0.043	0.014	6.340
0.142	0.053	0.015	7.490
0.140	0.043	•	6.525
0.147	0.064	0.003	7.600
0.134	0.050	0.006	6.621
0.144	0.037	0.014	6.816
0.141	0.034	0.003	6.438
0.142	0.037	0.003	6.608
0.094	0.028	0.013	5.721
0.072	0.036	•	5.681
0.078	0.017	0.002	4.467
0.053	0.023	•	4.502
0.031	0.009	0.005	3.677
0.037	0.011	0.005	3.939
0.037	0.012	•	4.286
0.008	0.003	0.002	3.104
0.018	0.005	0.002	3.262
0.011	0.010	•	3.326

Basic Table 55.A. Total Gansu Province (26): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.204	•	•	•
1941	0.239	•	•	•
1942	0.210	•	•	•
1943	0.206	•	•	•
1944	0.238	•	•	•
1945	0.238	0.308	•	•
1946	0.275	0.291	•	•
1947	0.237	0.284	•	•
1948	0.203	0.285	•	•
1949	0.293	0.330	•	•
1950	0.253	0.315	0.283	•
1951	0.238	0.258	0.213	•
1952	0.313	0.342	0.273	•
1953	0.281	0.297	0.267	•
1954	0.268	0.321	0.253	•
1955	0.283	0.355	0.295	0.233
1956	0.315	0.275	0.323	0.191
1957	0.287	0.280	0.267	0.214
1958	0.262	0.274	0.250	0.235
1959	0.161	0.169	0.173	0.147
1960	0.205	0.175	0.191	0.111
1961	0.173	0.187	0.157	0.127
1962	0.283	0.360	0.359	0.287
1963	0.325	0.394	0.313	0.229
1964	0.316	0.355	0.330	0.296
1965	0.316	0.310	0.278	0.242
1966	0.330	0.379	0.345	0.270
1967	0.293	0.294	0.291	0.241
1968	0.344	0.374	0.306	0.291
1969	0.318	0.303	0.271	0.241
1970	0.303	0.345	0.277	0.256
1971	0.317	0.326	0.280	0.220
1972	0.318	0.309	0.272	0.230
1973	0.298	0.331	0.264	0.187
1974	0.359	0.277	0.211	0.144
1975	0.322	0.208	0.132	0.086
1976	0.312	0.212	0.101	0.087
1977	0.310	0.197	0.109	0.058
1978	0.383	0.231	0.116	0.065
1979	0.374	0.277	0.162	0.056
1980	0.324	0.213	0.080	0.028
1981	0.339	0.205	0.078	0.039
1982	0.307	0.181	0.084	0.043

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.925
.	.	.	5.848
.	.	.	5.519
.	.	.	5.416
.	.	.	6.546
.	.	.	6.220
.	.	.	5.108
.	.	.	6.626
.	.	.	6.094
.	.	.	6.088
.	.	.	6.773
.	.	.	6.345
.	.	.	6.029
.	.	.	5.921
.	.	.	3.765
0.079	.	.	3.904
0.071	.	.	3.691
0.181	.	.	7.612
0.159	.	.	7.338
0.172	0.063	0.009	7.708
0.176	0.104	0.007	7.167
0.170	0.093	0.024	8.058
0.167	0.063	0.005	6.769
0.167	0.097	0.019	7.989
0.161	0.051	.	6.727
0.218	0.045	0.008	7.259
0.172	0.048	0.004	6.834
0.181	0.062	0.011	6.919
0.141	0.069	0.007	6.484
0.099	0.060	0.004	5.765
0.053	0.046	0.004	4.258
0.040	0.020	.	3.853
0.031	0.024	0.004	3.666
0.022	0.015	0.004	4.180
0.049	0.010	.	4.645
0.002	0.018	0.003	3.337
0.016	0.005	0.007	3.448
0.022	0.014	0.005	3.284

Basic Table 55.B. Urban Gansu Province (26): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.248	.	.	.
1941	0.286	.	.	.
1942	0.151	.	.	.
1943	0.138	.	.	.
1944	0.248	.	.	.
1945	0.352	0.273	.	.
1946	0.318	0.260	.	.
1947	0.205	0.151	.	.
1948	0.253	0.322	.	.
1949	0.420	0.338	.	.
1950	0.299	0.117	0.248	.
1951	0.136	0.295	0.260	.
1952	0.349	0.365	0.176	.
1953	0.361	0.232	0.322	.
1954	0.191	0.385	0.180	.
1955	0.288	0.285	0.399	0.248
1956	0.369	0.314	0.295	0.156
1957	0.250	0.323	0.160	0.126
1958	0.334	0.321	0.274	0.299
1959	0.215	0.235	0.175	0.135
1960	0.282	0.176	0.257	0.094
1961	0.240	0.150	0.150	0.068
1962	0.335	0.408	0.298	0.274
1963	0.394	0.429	0.387	0.084
1964	0.304	0.403	0.264	0.263
1965	0.349	0.317	0.192	0.143
1966	0.333	0.330	0.273	0.164
1967	0.316	0.168	0.193	0.129
1968	0.434	0.321	0.277	0.174
1969	0.350	0.157	0.152	0.073
1970	0.424	0.287	0.150	0.112
1971	0.359	0.222	0.134	0.137
1972	0.449	0.260	0.186	0.091
1973	0.303	0.316	0.114	0.057
1974	0.339	0.136	0.079	0.045
1975	0.279	0.173	0.012	0.035
1976	0.343	0.125	0.032	0.009
1977	0.339	0.139	0.056	0.009
1978	0.394	0.084	0.039	0.010
1979	0.385	0.054	0.058	.
1980	0.211	0.035	.	.
1981	0.286	0.034	0.016	.
1982	0.246	.	.	.

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.146
.	.	.	5.776
.	.	.	3.452
.	.	.	6.452
.	.	.	7.541
.	.	.	4.669
.	.	.	5.452
.	.	.	6.354
.	.	.	6.593
.	.	.	5.767
.	.	.	7.215
.	.	.	6.565
.	.	.	4.993
.	.	.	7.218
.	.	.	4.439
0.050	.	.	4.440
0.078	.	.	3.560
0.126	.	.	7.500
0.138	.	.	7.437
0.045	0.049	.	6.634
0.164	0.025	.	5.951
0.023	0.078	.	6.001
0.114	.	.	4.599
0.084	.	.	6.450
0.070	0.023	.	4.128
0.057	.	0.025	5.272
0.041	.	.	4.461
0.013	.	.	4.996
0.067	.	.	4.282
0.015	.	.	3.066
.	.	.	2.499
.	0.014	.	2.610
0.011	.	.	2.772
0.010	.	.	2.689
0.009	.	.	2.531
.	.	.	1.230
.	.	.	1.678
.	.	.	1.228

Basic Table 55.C. Rural Gansu Province (26): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.195	.	.	.
1941	0.231	.	.	.
1942	0.220	.	.	.
1943	0.218	.	.	.
1944	0.236	.	.	.
1945	0.213	0.315	.	.
1946	0.265	0.297	.	.
1947	0.245	0.307	.	.
1948	0.193	0.278	.	.
1949	0.265	0.328	.	.
1950	0.242	0.357	0.290	.
1951	0.260	0.249	0.205	.
1952	0.305	0.336	0.289	.
1953	0.263	0.311	0.257	.
1954	0.284	0.307	0.267	.
1955	0.283	0.372	0.273	0.230
1956	0.303	0.266	0.330	0.196
1957	0.296	0.270	0.291	0.229
1958	0.241	0.263	0.245	0.223
1959	0.144	0.156	0.173	0.149
1960	0.181	0.174	0.176	0.114
1961	0.154	0.196	0.159	0.141
1962	0.270	0.347	0.373	0.291
1963	0.311	0.384	0.297	0.259
1964	0.318	0.339	0.344	0.303
1965	0.310	0.308	0.295	0.265
1966	0.329	0.394	0.361	0.293
1967	0.290	0.326	0.317	0.267
1968	0.333	0.385	0.315	0.318
1969	0.315	0.331	0.308	0.275
1970	0.291	0.356	0.316	0.283
1971	0.312	0.341	0.323	0.239
1972	0.302	0.316	0.293	0.267
1973	0.298	0.333	0.295	0.226
1974	0.361	0.293	0.236	0.175
1975	0.328	0.212	0.153	0.102
1976	0.307	0.222	0.111	0.110
1977	0.305	0.204	0.116	0.070
1978	0.381	0.248	0.125	0.077
1979	0.371	0.304	0.174	0.067
1980	0.353	0.238	0.088	0.033
1981	0.353	0.233	0.086	0.044
1982	0.322	0.213	0.094	0.049

rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	5.883
.	.	.	5.861
.	.	.	5.912
.	.	.	5.218
.	.	.	6.347
.	.	.	6.540
.	.	.	5.038
.	.	.	6.687
.	.	.	5.993
.	.	.	6.153
.	.	.	6.685
.	.	.	6.300
.	.	.	6.255
.	.	.	5.626
.	.	.	3.611
0.085	.	.	3.782
0.070	.	.	3.720
0.190	.	.	7.638
0.163	.	.	7.316
0.197	0.066	0.010	7.893
0.179	0.120	0.008	7.421
0.206	0.096	0.028	8.534
0.178	0.073	0.006	7.287
0.184	0.116	0.023	8.364
0.180	0.057	.	7.334
0.256	0.055	0.005	7.799
0.200	0.059	0.004	7.392
0.219	0.076	0.013	7.432
0.157	0.083	0.009	7.006
0.117	0.073	0.004	6.295
0.063	0.056	0.005	4.597
0.049	0.021	.	4.095
0.036	0.030	0.005	3.830
0.026	0.018	0.004	4.398
0.062	0.012	.	4.951
0.003	0.021	0.003	3.697
0.021	0.006	0.009	3.755
0.028	0.018	0.006	3.646

Basic Table 56. Total Qinghai Province (27): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.174	.	.	.
1941	0.105	.	.	.
1942	0.192	.	.	.
1943	0.188	.	.	.
1944	0.176	.	.	.
1945	0.078	0.240	.	.
1946	0.239	0.281	.	.
1947	0.207	0.221	.	.
1948	0.093	0.126	.	.
1949	0.270	0.188	.	.
1950	0.156	0.285	0.218	.
1951	0.140	0.189	0.176	.
1952	0.229	0.233	0.162	.
1953	0.200	0.213	0.214	.
1954	0.173	0.307	0.263	.
1955	0.255	0.292	0.272	0.262
1956	0.185	0.210	0.189	0.176
1957	0.239	0.257	0.181	0.133
1958	0.167	0.255	0.147	0.214
1959	0.157	0.155	0.208	0.075
1960	0.070	0.082	0.094	0.091
1961	0.095	0.102	0.110	0.063
1962	0.277	0.334	0.172	0.207
1963	0.248	0.241	0.228	0.173
1964	0.301	0.407	0.327	0.270
1965	0.212	0.308	0.274	0.219
1966	0.269	0.307	0.268	0.240
1967	0.247	0.284	0.239	0.210
1968	0.337	0.322	0.241	0.282
1969	0.301	0.243	0.277	0.182
1970	0.320	0.307	0.229	0.228
1971	0.215	0.269	0.229	0.176
1972	0.326	0.326	0.234	0.210
1973	0.256	0.277	0.208	0.223
1974	0.324	0.341	0.237	0.111
1975	0.231	0.291	0.178	0.132
1976	0.374	0.260	0.166	0.095
1977	0.323	0.227	0.213	0.113
1978	0.282	0.243	0.196	0.148
1979	0.297	0.310	0.239	0.081
1980	0.152	0.210	0.184	0.100
1981	0.285	0.252	0.221	0.143
1982	0.206	0.196	0.263	0.124

rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.954
.	.	.	5.423
.	.	.	4.404
.	.	.	2.367
.	.	.	4.221
.	.	.	4.774
.	.	.	3.621
.	.	.	4.488
.	.	.	4.508
.	.	.	5.571
.	.	.	6.283
.	.	.	4.385
.	.	.	4.741
.	.	.	4.822
.	.	.	3.385
0.065	.	.	1.951
0.070	.	.	2.246
0.103	.	.	5.484
0.100	.	.	5.194
0.100	0.079	0.062	7.728
0.169	0.065	0.054	6.505
0.139	0.053	0.054	6.652
0.103	0.029	0.042	5.768
0.187	0.100	0.031	7.508
0.172	0.050	0.026	6.258
0.125	0.039	.	6.239
0.170	0.038	.	5.483
0.172	0.039	0.015	6.605
0.155	0.040	0.013	5.859
0.173	0.074	.	6.297
0.100	0.073	0.013	5.093
0.074	0.050	0.013	5.154
0.105	0.038	0.013	5.165
0.065	0.046	0.053	5.162
0.065	0.036	0.012	5.204
0.114	0.032	0.010	4.266
0.079	0.028	0.010	5.088
0.085	0.039	.	4.564

Basic Table 57. Total Ningxia Province (28): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.248	.	.	.
1941	0.155	.	.	.
1942	0.286	.	.	.
1943	0.391	.	.	.
1944	0.361	.	.	.
1945	0.337	0.186	.	.
1946	0.270	0.361	.	.
1947	0.351	0.393	.	.
1948	0.200	0.335	.	.
1949	0.353	0.288	.	.
1950	0.357	0.377	0.496	.
1951	0.224	0.203	0.103	.
1952	0.298	0.320	0.322	.
1953	0.277	0.293	0.363	.
1954	0.418	0.311	0.361	.
1955	0.275	0.371	0.178	0.372
1956	0.340	0.447	0.321	0.465
1957	0.370	0.271	0.288	0.322
1958	0.345	0.382	0.216	0.252
1959	0.243	0.190	0.198	0.144
1960	0.121	0.131	0.200	0.119
1961	0.190	0.109	0.154	0.101
1962	0.422	0.370	0.353	0.256
1963	0.381	0.371	0.356	0.323
1964	0.399	0.351	0.241	0.226
1965	0.345	0.339	0.288	0.200
1966	0.410	0.296	0.367	0.294
1967	0.311	0.392	0.315	0.203
1968	0.423	0.428	0.345	0.224
1969	0.365	0.323	0.351	0.152
1970	0.353	0.278	0.279	0.275
1971	0.357	0.382	0.233	0.272
1972	0.342	0.272	0.271	0.260
1973	0.399	0.306	0.229	0.225
1974	0.383	0.219	0.275	0.230
1975	0.432	0.338	0.259	0.157
1976	0.365	0.259	0.153	0.127
1977	0.365	0.245	0.155	0.111
1978	0.420	0.261	0.189	0.105
1979	0.329	0.331	0.171	0.142
1980	0.320	0.282	0.157	0.144
1981	0.410	0.241	0.084	0.057
1982	0.316	0.218	0.182	0.039

rates, 1940–82

20–24	25–29	30+	Total
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	4.838
•	•	•	7.115
•	•	•	7.798
•	•	•	6.050
•	•	•	5.942
•	•	•	9.008
•	•	•	3.791
•	•	•	6.825
•	•	•	6.933
•	•	•	7.612
•	•	•	6.910
•	•	•	9.162
•	•	•	7.200
•	•	•	6.807
•	•	•	4.419
0.124	•	•	3.621
0.103	•	•	3.437
0.286	•	•	8.743
0.084	•	•	7.770
0.168	0.108	0.097	7.953
0.139	0.124	•	7.169
0.152	0.206	•	8.630
0.144	0.071	•	7.180
0.154	0.112	0.050	8.678
0.184	0.096	•	7.358
0.214	0.040	•	7.188
0.126	0.034	•	7.018
0.149	0.048	•	6.711
0.224	0.031	•	7.065
0.152	0.071	•	6.653
0.157	0.171	•	7.569
0.136	0.056	0.034	5.647
0.055	0.108	•	5.196
0.053	0.053	0.031	5.556
0.135	0.089	•	5.981
0.061	0.052	0.029	5.218
0.042	0.014	•	4.240
0.059	0.027	0.027	4.347

Basic Table 58.A. Total Xinjiang Province (29): duration-specific fertility

Birth year of child	0–4	5–9	10–14	15–19
1940	0.188	.	.	.
1941	0.145	.	.	.
1942	0.217	.	.	.
1943	0.180	.	.	.
1944	0.180	.	.	.
1945	0.171	0.207	.	.
1946	0.182	0.264	.	.
1947	0.172	0.189	.	.
1948	0.155	0.216	.	.
1949	0.168	0.263	.	.
1950	0.187	0.232	0.213	.
1951	0.126	0.263	0.172	.
1952	0.276	0.242	0.343	.
1953	0.203	0.203	0.180	.
1954	0.252	0.263	0.366	.
1955	0.280	0.179	0.184	0.170
1956	0.255	0.299	0.344	0.238
1957	0.271	0.224	0.226	0.217
1958	0.268	0.340	0.280	0.266
1959	0.223	0.210	0.202	0.180
1960	0.200	0.248	0.212	0.232
1961	0.208	0.218	0.192	0.200
1962	0.278	0.320	0.298	0.226
1963	0.336	0.287	0.245	0.218
1964	0.282	0.327	0.274	0.263
1965	0.322	0.314	0.248	0.212
1966	0.335	0.328	0.284	0.203
1967	0.334	0.255	0.261	0.164
1968	0.376	0.329	0.235	0.279
1969	0.356	0.327	0.253	0.199
1970	0.327	0.299	0.266	0.216
1971	0.305	0.321	0.203	0.169
1972	0.315	0.269	0.225	0.178
1973	0.328	0.293	0.251	0.160
1974	0.345	0.292	0.248	0.199
1975	0.321	0.257	0.183	0.152
1976	0.333	0.257	0.224	0.133
1977	0.310	0.232	0.166	0.117
1978	0.345	0.216	0.152	0.135
1979	0.296	0.225	0.156	0.102
1980	0.287	0.183	0.137	0.091
1981	0.309	0.227	0.124	0.112
1982	0.350	0.210	0.212	0.166

rates, 1940-82

20-24	25-29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	4.012
.	.	.	4.919
.	.	.	3.789
.	.	.	4.053
.	.	.	4.905
.	.	.	4.625
.	.	.	4.158
.	.	.	6.200
.	.	.	4.202
.	.	.	6.418
.	.	.	4.663
.	.	.	6.519
.	.	.	5.353
.	.	.	6.676
.	.	.	4.632
0.163	.	.	5.363
0.059	.	.	4.600
0.161	.	.	6.641
0.130	.	.	6.214
0.228	0.128	0.067	7.843
0.219	0.138	0.080	7.666
0.188	0.073	0.063	7.369
0.135	0.112	0.061	6.612
0.131	0.079	0.063	7.454
0.133	0.076	0.038	6.913
0.151	0.082	0.050	6.956
0.134	0.038	0.033	6.009
0.157	0.059	0.028	6.154
0.084	0.029	0.022	5.835
0.146	0.034	0.028	6.467
0.103	0.049	0.007	5.356
0.119	0.061	0.031	5.795
0.071	0.045	0.005	4.731
0.047	0.031	0.005	4.655
0.064	0.026	0.013	4.404
0.051	0.025	0.012	3.927
0.058	0.026	0.015	4.356
0.056	0.024	0.008	5.128

Basic Table 58.B. Urban Xinjiang Province (29): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.341	.	.	.
1941	0.200	.	.	.
1942	0.135	.	.	.
1943	0.212	.	.	.
1944	0.243	.	.	.
1945	0.368	0.272	.	.
1946	0.312	0.200	.	.
1947	0.180	0.271	.	.
1948	0.171	0.141	.	.
1949	0.215	0.364	.	.
1950	0.299	0.105	0.341	.
1951	0.201	0.389	0.133	.
1952	0.356	0.209	0.271	.
1953	0.198	0.220	0.212	.
1954	0.309	0.344	0.303	.
1955	0.259	0.187	0.158	0.204
1956	0.357	0.335	0.312	0.200
1957	0.270	0.204	0.209	0.135
1958	0.327	0.270	0.293	0.282
1959	0.278	0.250	0.301	0.121
1960	0.252	0.218	0.149	0.105
1961	0.209	0.250	0.201	0.234
1962	0.341	0.307	0.288	0.299
1963	0.406	0.280	0.252	0.220
1964	0.309	0.347	0.132	0.280
1965	0.358	0.290	0.191	0.131
1966	0.371	0.271	0.167	0.100
1967	0.376	0.219	0.149	0.102
1968	0.380	0.310	0.179	0.090
1969	0.401	0.302	0.193	0.132
1970	0.326	0.307	0.114	0.055
1971	0.405	0.265	0.139	0.143
1972	0.366	0.194	0.122	0.084
1973	0.419	0.235	0.239	0.093
1974	0.449	0.191	0.173	0.062
1975	0.373	0.142	0.089	0.061
1976	0.407	0.165	0.029	0.023
1977	0.333	0.161	0.040	0.016
1978	0.307	0.134	0.024	0.016
1979	0.282	0.068	0.013	.
1980	0.213	0.049	0.007	.
1981	0.226	0.010	.	.
1982	0.300	0.044	0.018	.

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	6.222
.	.	.	4.776
.	.	.	5.258
.	.	.	3.125
.	.	.	6.934
.	.	.	5.385
.	.	.	5.439
.	.	.	5.929
.	.	.	4.700
.	.	.	7.105
.	.	.	4.707
.	.	.	7.013
.	.	.	4.743
.	.	.	6.886
.	.	.	5.537
0.136	.	.	4.479
0.133	.	.	5.363
0.135	.	.	7.142
0.071	.	.	6.358
0.121	.	.	5.948
0.158	0.204	.	6.656
0.078	.	.	4.931
0.060	0.068	.	4.866
0.073	.	.	5.164
0.086	.	.	5.573
0.056	.	.	4.288
0.050	.	.	5.011
0.051	0.090	0.068	4.869
0.018	.	.	5.024
0.015	.	.	4.444
.	.	.	3.324
0.012	.	.	3.182
0.009	.	.	2.795
0.008	.	.	2.445
.	.	.	1.813
0.008	.	.	1.383
.	.	.	1.178
.	.	.	1.812

Basic Table 58.C. Rural Xinjiang Province (29): duration-specific

Birth year of child	0–4	5–9	10–14	15–19
1940	0.173	•	•	•
1941	0.139	•	•	•
1942	0.226	•	•	•
1943	0.176	•	•	•
1944	0.172	•	•	•
1945	0.141	0.201	•	•
1946	0.157	0.272	•	•
1947	0.171	0.180	•	•
1948	0.151	0.224	•	•
1949	0.156	0.250	•	•
1950	0.156	0.251	0.201	•
1951	0.104	0.239	0.176	•
1952	0.253	0.249	0.351	•
1953	0.204	0.199	0.176	•
1954	0.232	0.242	0.374	•
1955	0.287	0.177	0.188	0.166
1956	0.215	0.288	0.351	0.242
1957	0.271	0.229	0.230	0.226
1958	0.236	0.359	0.277	0.265
1959	0.195	0.197	0.178	0.187
1960	0.175	0.258	0.229	0.251
1961	0.208	0.206	0.189	0.194
1962	0.250	0.326	0.301	0.210
1963	0.305	0.291	0.243	0.217
1964	0.270	0.316	0.323	0.258
1965	0.305	0.327	0.268	0.234
1966	0.316	0.356	0.330	0.234
1967	0.314	0.272	0.317	0.182
1968	0.374	0.336	0.266	0.330
1969	0.337	0.339	0.284	0.222
1970	0.328	0.295	0.342	0.273
1971	0.275	0.349	0.234	0.179
1972	0.301	0.306	0.272	0.225
1973	0.303	0.319	0.257	0.197
1974	0.318	0.335	0.283	0.272
1975	0.307	0.299	0.229	0.197
1976	0.312	0.285	0.325	0.185
1977	0.303	0.252	0.228	0.164
1978	0.355	0.239	0.211	0.187
1979	0.300	0.265	0.215	0.148
1980	0.306	0.219	0.185	0.135
1981	0.332	0.287	0.161	0.170
1982	0.365	0.256	0.264	0.246

fertility rates, 1940–82

20–24	25–29	30+	Total
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	3.774
.	.	.	4.936
.	.	.	3.600
.	.	.	4.186
.	.	.	4.598
.	.	.	4.500
.	.	.	3.933
.	.	.	6.248
.	.	.	4.113
.	.	.	6.278
.	.	.	4.653
.	.	.	6.405
.	.	.	5.508
.	.	.	6.619
.	.	.	4.374
0.166	.	.	5.616
0.051	.	.	4.378
0.164	.	.	6.489
0.136	.	.	6.170
0.242	0.142	0.070	8.101
0.228	0.131	0.087	7.895
0.209	0.081	0.066	7.956
0.151	0.117	0.065	7.085
0.145	0.088	0.069	8.038
0.145	0.086	0.043	7.276
0.177	0.094	0.055	7.819
0.159	0.045	0.037	6.385
0.186	0.053	0.023	6.829
0.102	0.036	0.024	6.189
0.192	0.043	0.031	7.365
0.139	0.062	0.008	6.209
0.160	0.080	0.037	6.924
0.101	0.057	0.007	5.559
0.069	0.039	0.006	5.528
0.097	0.035	0.016	5.384
0.072	0.034	0.016	4.829
0.085	0.037	0.020	5.460
0.081	0.037	0.010	6.294

APPENDIX A. COMMENTS ON THE TOTAL AGE-SPECIFIC FERTILITY RATE, TOTAL AGE-SPECIFIC MARRIED FERTILITY RATE, AND TOTAL DURATION-SPECIFIC FERTILITY RATE

To summarize the time pattern of changing fertility in China from 1940 to 1982, it is convenient to use an index of overall fertility. The measure of overall fertility for a specified period that is generally accepted as most useful is the total age-specific fertility rate, the sum of age-specific rates at which women from 15 to 50 years of age bear children. The TAFR is the mean number of children who would have been born to women reaching age 50, had the women been subject at each age to the rates in question. It has the advantage over alternative measures of being independent of the age distribution of the population in question, and it is readily understood, since it answers the simple question: How many children, on average, would women bear according to this year's rates of childbearing?

An analogous aggregate measure of marital fertility is the total age-specific marital fertility rate, defined as the sum of age-specific marital fertility rates for ages 15 to 50. It is the mean number of children who would have been born to women reaching age 50, had all the women married at age 15, remained married, and experienced the marital fertility rates in question. If all women from 15 to 50 are currently married, the total fertility rate and the total marital fertility rate are equal. Otherwise, when all births occur to currently married women, the total fertility rate equals the total marital fertility rate multiplied by an index of proportion married (C_m). C_m is the weighted average of the proportion married at each age from 15 to 50; the weights are age-specific marital fertility rates. (See John Bongaarts, "A framework for analyzing proximate determinants of fertility," *Population and Development Review,* vol. 4, no. 1, March 1978.)

The TAMFR must be interpreted with caution. A higher value of this index for one population than for a second does not imply that married women in the first would have a larger number of children if subject to the observed marital fertility rates. A complicating factor is the effect on TAMFR of high marital fertility rates at young ages that prevail in populations where most marriages occur in the mid-20s or later. When the mean age at first marriage is over 25, the few women who marry before age 20 typically have very high marital fertility at these ages. Many marry because they are pregnant, rather than become pregnant because they have married; the fertility rate at ages less than 20 can be as high as 0.70 in such populations. Marital fertility is usually higher early in marriage than in later years (especially when contraception leads to low fertility at greater durations); marital fertility at all ages up to and beyond the mean age at first marriage is experienced mostly by women at early durations. In Ireland in 1961 (where marriage was very late), the total marital fertility rate was 10.34, even though the total age-specific fertility rate was only 3.78, and married women reaching age 50 had borne an average of fewer than five children. Because of these ambiguities we have not calculated TAMFR for China.

An alternative cumulative measure of marital fertility is the total duration-specific fertility rate, or TDFR. It is the sum of fertility rates at each duration of marriage up to the highest duration at which nonzero fertility occurs, and it equals the average number of children that married women would bear if subject to the given rates at each duration from the first year after marriage until the highest duration with nonzero fertility.

TDFR for a birth cohort multiplied by the proportion ever married at age 50 in the cohort equals TAFR for the cohort. This equality can be understood intuitively by imagining a retrospective fertility survey conducted when a cohort reaches age 50. For the ever-married women in the cohort, the average number of children they have borne by age 50 is at once the sum of the age-specific fertility rates they have experienced and the sum of the duration-specific rates. But since TMR (the total first-marriage rate) equals the proportion ever married at age 50 (on the assumption of no marriages beyond age 50 and a negligible effect of differential mortality between the single and ever married), the total fertility rate of the whole cohort is the total fertility rate of the ever-married at 50 times TMR, or TDFR·TMR.

As will be demonstrated later, the relation of TAFR *in a period* to TDFR for the same period depends not on the total first-marriage rate for the period, but on the series of total first-marriage rates in the preceding years.

In a population with an approximately equal number at each age at which marital fertility rates are high, the total duration fertility rate can be converted into the total age fertility rate by multiplying the duration-specific rate at each duration d by the total first-marriage rate at $t - d$ and summing the duration-specific rates so modified. As noted already, TAFR for a cohort is equal to TDFR·TMR because the ever-married women in the cohort have the same cumulative fertility by age (TAFR) as by duration since first marriage (TDFR); each total is equal to the average final parity of the cohort of ever-married women. If nuptiality is constant in a population with the same number of women at each childbearing age, if the proportion ever married at each age and the duration composition of ever-married women at each age are fixed, the cohort relation (TAFR=TDFR TMR) also applies to period total fertility rates and total nuptiality rates.

When first-marriage rates have been changing, causing variation in TMR, duration-specific fertility rates are not much affected. Women who married at age 24 have about the same fertility at early durations as women who married at age 23. If mean age at first marriage changes from 23 to

24, however, the number of first marriages is reduced, even though the total marriage rate in each cohort remains fixed.

The effect on the total fertility rate and the total first-marriage rate of a change in the age schedule of entry into first marriage is illustrated by a deliberately simplified hypothetical example.

Hypothetical example of duration-specific and age-specific fertility when age at marriage changes

Consider a regime of nuptiality and marital fertility in which 80 percent of all women marry, 16 percent of each cohort marrying at the exact ages of 20, 21, 22, 23, and 24. Each married woman bears just one child, always within the first year of marriage. Total duration-specific fertility is 1.0 as a result of a rate of 1.0 at duration 0–1 and 0.0 at other durations. Total age-specific fertility is 0.80 as a result of a fertility rate of 0.16 at five consecutive ages, from 20–21 through 24–25.

Now suppose that after the long prevalence of this regime, there is a change, beginning at time t_0, such that all cohorts arriving at age 20 postpone marriage for one year. In the new regime 16 percent marry at each exact age from 21 to 25 and each married woman bears one child in the first year of marriage. Duration-specific fertility remains 1.0 at duration 0–1 and 0.0 at other durations, but age-specific fertility is altered. In the first year after t_0, ${}_1f_{20}$ is 0.0 and ${}_1f_{21}$, ${}_1f_{22}$, ${}_1f_{23}$, and ${}_1f_{24}$ are each 0.16. After five years the first cohort subject to the new regime of marriage reaches age 25; the last 16 percent of the cohort who will ever marry marry at that age, leaving 20 percent single. At $t_0 + 5$, then, the age-specific fertility schedule is 0.16 at 21–22 through 25–26. During the five years following t_0, when no marriages occur at age 20 or 25, but only at 21, 22, 23, and 24, the total age-specific fertility is only 0.64; at $t_0 + 5$ and subsequent times, age-specific TFR is again 0.80. At all times duration-specific TFR remains at 1.0. A one-year increase in age at marriage causes TAFR to fall from 0.80 to 0.64 for five years; it also causes the total first-marriage rate to fall from 0.80 to 0.64 for five years.

In this hypothetical example and also in real situations (at least when marital fertility is strongly controlled), a change in age at marriage has no necessary effect on duration-specific fertility rates, but it does affect both age-specific fertility rates and the total first-marriage rate. To reconcile total duration-specific fertility with total age-specific fertility when age at marriage changes, one must multiply duration-specific fertility at duration y at time t by total first-marriage rate at $t - y$. After this adjustment, the modified duration-specific rates sum to the same total as the sum of the age-specific fertility rates for the same year.

In our example the reconciliation of the total duration-specific fertility rate with the total age-specific fertility rate is simple, since duration-specific fertility consists entirely of a rate of 1.0 at duration 0–1. Because fertility is restricted to the first year of marriage, to convert the total duration-specific fertility rate for each year into the total age-specific fertility rate, TDFR is multiplied by the total first-marriage rate at the beginning of that year. The total duration-specific rates for years before t_0 are thus multiplied by 0.8, for the next five years by 0.64, and thereafter by 0.8 again, precisely converting the TDFRs into the TAFRs for these years.

Suppose that $f(d,t)$ is the fertility at time t of ever-married women at duration d since first marriage, and TMR(t) is the total first-marriage rate at time t. It can be proved (see the next section) that the total fertility rate (by age) at time t is the sum of corrected duration-specific rates at time t, where the correction factor at each duration d is simply the total first-marriage rate d years earlier. To be precise,

$$\text{TAFR} = \int_0^{35} f(d,t)\text{TMR}(t-d)\, dd; \tag{1}$$

but to be more precise, Equation (1) is exact only if the number of women at each age from 15 to 50 is the same. If, instead, the number of women at each age declines by an average fraction of g per year of age, duration-specific fertility differs from its value with a flat age distribution by a factor of $(1+[\bar{a}_d-\bar{a}_b]g)$, where $\bar{a}_d$ is the mean age of women at marriage duration d, and $\bar{a}_b$ is the mean age of childbearing of women at duration d. These two mean ages would be the same were it not for changing rates of childbearing with age for women at duration d. Suppose the average proportional decline in duration-specific fertility over the age range where women at duration d are found is h per year of age. Then the difference between $\bar{a}_d$ and $\bar{a}_b$ is $h\sigma_d^2$, where σ_d^2 is the variance of the age distribution of women at duration d, or the variance of age at first marriage d years earlier. The overall effect of an age distribution that diminishes rather than is constant (over the range in which women at duration d are found) is to increase duration-specific fertility at duration d by a factor of $(1+gh\sigma_d^2)$. In a growing population, the age distribution may diminish by an average of 3 percent per year, and fertility at duration d may decline with age by some 2 to 4 percent. The average decline in "natural" fertility from age 20 to age 35 is 1.9 percent per year; at higher ages the decline is greater. Allowance for a declining number of women as age increases thus multiplies the estimate of TAFR from TDFR by a factor of about $(1+.0009\sigma_d^2)$. The variance of first-marriage frequencies is as little as 7 in China and was as much as 43 in nineteenth-century Sweden; the effect of a nonconstant age distribution is thus to make the sum of the duration-specific rates adjusted according to Equation (1) exceed the actual TFR by 1.0 to 4.0 percent.

Conversion of TDFR into TAFR in China

In any closed population in which only married women bear children, a change in the age schedule of entry into marriage has no necessary effect on duration-specific fertility. Women who marry at age 24 instead of age 23 can be expected to bear children after marriage at about the same rate. The change in age at marriage does affect the number of women marrying each year, however, even when the proportion ever marrying within each cohort is constant. In the hypothetical example presented earlier, an increase of one year in the mean age at marriage depressed the total first-marriage rate by 20 percent of its original value for an interval of five years. This effect is an example of a general one: A permanent increase of one year in the mean age at first marriage causes the loss of one year's normal quota of first marriages, a loss that is usually spread over several years. Conversely, a reduction of one year in the mean age at first marriage adds altogether an extra one year's normal quota to the number of first marriages, again spread over a period. In a stationary regime of first-marriage rates, the total first-marriage rate is constant. The proportion ever married at each age does not change, remaining equal to the unchanging cohort proportion ever married at each age. In China, the proportion ultimately ever marrying in each cohort is very near 1.0. For example, the proportion ever married was above 0.99 at all ages greater than 31 in 1982. However, the total first-marriage rate was below 1.0 in many years for which it can be calculated, as reported in the State Family Planning Commission's publication of its survey. Consequently, a total first-marriage rate of less than 1—for example, 0.88—indicates that either a temporary avoidance of marriage or a rising age at marriage has depressed the number of marriages in the year in question (in this case by 12 percent). Suppose the total first-marriage rate in the year from 1 July 1978 to 1 July 1979 is 0.88. This means that the number of women experiencing duration-specific fertility at duration 0–1 is only about 88 percent of what the number would be if the TMR were 1.0 in that period. The smaller number of women in duration 0–1 in 1979 does not reduce the duration-specific rate, but it does reduce the contribution of women at duration 0–1 (at the different ages at which they are found) to the overall age-specific fertility rate. Therefore, in converting the total duration-specific fertility rate into a number equal to the total age-specific fertility rate, one should multiply the contribution of births at duration 0–1 by 0.88. The general procedure for converting the total duration-specific rate into a number approximately equal to the total age-specific rate is to multiply the duration-specific rate at each duration y by the total first-marriage rate in the year $t - y$ (Equation 1). Such a modification of the total duration-specific rates year by year in the rural population of Liaoning Province has been calculated. The adjusted total duration-specific fertility rates are compared with

Table A.1. Total duration-specific fertility, total age-specific fertility, and adjusted total duration-specific fertility, for rural Liaoning Province, 1960–82, and for China and selected provinces, 1979

Year	TDFR	TAFR	Adjusted TDFR
1960	7.51	6.78	6.96
1961	3.36	3.03	3.08
1962	6.88	6.17	6.36
1963	9.77	8.91	9.22
1964	8.28	7.59	7.81
1965	7.55	6.67	6.91
1966	8.27	7.30	7.56
1967	6.66	5.76	5.92
1968	7.35	6.38	6.51
1969	6.62	5.84	5.88
1970	6.08	5.18	5.31
1971	5.77	4.86	4.99
1972	4.94	4.16	4.18
1973	5.22	4.22	4.32
1974	4.47	3.55	3.55
1975	3.70	2.75	2.85
1976	3.31	2.43	2.47
1977	2.89	2.17	2.20
1978	3.19	2.46	2.55
1979	3.29	2.57	2.67
1980	2.45	2.08	2.13
1981	2.32	2.15	2.21
1982	2.08	2.13	2.22
China, 1979			
Urban	1.87	1.38	1.43
Rural	3.91	3.06	3.12
City of Shanghai	1.23	.78	.80
Rural Qinghai	6.12	5.76	5.89

the total age-specific rates from 1960 to 1982 in Table A.1. The agreement is quite good. From 1960 to 1981, the adjusted TDFRs exceed the TAFRs by less than 4 percent (an average of 2.7 percent), about the difference predicted as the effect of nonconstant age distribution and fertility rates. In selected areas of China in 1979, the adjusted TDFR exceeds the TAFR by 2 or 3 percent.

TAFR and TDFR: Summary

In a cohort, the total age-specific fertility rate equals the total duration-specific rate of ever-married women multiplied by the proportion who ever marry before age 50. When all women marry at least once, when duration is measured from the date of first marriage, and when all births occur to married women, the total cohort age-specific fertility rate and the total duration-specific fertility rate are equal.

When age at marriage changes but all cohorts attain 100 percent ever married, the annual number of marriages and the total first-marriage rate are affected. They are reduced if age at marriage is increasing. Although duration-specific fertility rates are not affected by such a reduction in the size of marriage cohorts, the number of births and the age-specific fertility rates are reduced by the reduction in the number of married women at the relevant durations. For given duration-specific rates, the modified total duration-specific rate occasioned by past deviations in the number of marriages caused by changing age at marriage is $\mathrm{TDFR}^* = \sum_{j=0}^{30} \mathrm{TMR}_{t-j} d_j(t)$. The modified total exceeds (by only 1 to 3 percent) the total age-specific fertility rate, which is affected by the deficits (or excesses) of women at different durations produced by past fluctuations in the age schedule of first marriage. The conclusion is simple: In China, TAFR and TDFR would be very nearly equal if age at marriage were fixed. The time sequence of TDFR shows how marital fertility has changed, and the time sequence of TAFR shows how overall fertility has changed. Each year the difference between TDFR and TAFR shows how total fertility has been reduced or increased because of changes in age at marriage.

APPENDIX B. PROOFS OF TWO PROPOSITIONS ABOUT THE RELATION OF TDFR AND TAFR

by German Rodriguez* and Ansley J. Coale

Proposition 1

When the period duration-specific fertility rate at each duration *d* is multiplied by the total first-marriage rate *d* years earlier, the sum of the duration-specific fertility rates so modified equals the total age-specific fertility rate, provided that the number of women at each childbearing age is the same.

Proposition 2

Total duration-specific fertility, when adjusted as in Proposition 1, exceeds rather than equals total age-specific fertility provided that, first, the number of women in the childbearing ages and, second, the rate of childbearing by women at duration *d* both decline with age. The proportionate excess of adjusted TDFR over TAFR is $(1+gh\sigma_d^2)$, where g is the average annual proportionate rate of decline with age in the number of women at duration d, h is the average annual proportionate rate of decline with age in the fertility of women at duration d, and σ_d^2 is the variance of the age distribution of women at duration *d* or the variance in age at first marriage *d* years earlier.

Notation

(α,β) = reproductive span. No marriages or births occur outside this span.
$g(a,t)$ = first-marriage density at age a at time t.
$r(a,d,t)$ = ever-married fertility rate at a, d, t.
$w(a,d,t)$ = number of ever-married women at a, d, t.
$W(a,t)$ = number of ever-married women (all durations) at a, t.
$W(d,t)$ = number of women (all ages) at d, t.
$N(a,t)$ = number of women at a, t.
$\text{TMR}(t)$ = total first-marriage rate at t.
$B(a,d,t)$ = number of births to women at a, d, t.
$f(a,t)$ = age-specific fertility rate at a, t.
$f(d,t)$ = duration-specific fertility rate at d, t.

Assumptions

No premarital fertility exists.

Mortality for the single and for the ever-married is the same, so that

$$w(a,t,d) = N(a,t)g(a-d,t-d)$$

---

* German Rodriguez is Director, Department of Statistics, Catholic University of Chile.

Proof of proposition 1

The age-specific fertility rate is

$$f(a,t) = \int_0^{a-\alpha} B(a,d,t)\, dd/N(a,t), \text{ or}$$

$$f(a,t) = \int_0^{a-\alpha} N(a,t)g(a-d,t-d)r(a,t)\, dd/N(a,t), \text{ or}$$

$$f(a,t) = \int_0^{a-\alpha} g(a-d,t-d)r(a,t,d)\, dd.$$

Thus age-specific fertility is independent of the age distribution. The total age-specific fertility rate is

$$\mathrm{TAFR}(t) = \int_\alpha^\beta \int_a^{a-\alpha} g(a-d,t-d)r(a,t,d)\, dd\, da. \tag{A1}$$

The duration-specific fertility rate is

$$f(d,t) = \int_{\alpha+d}^{\beta} B(a,d,t)\, da/W(d,t).$$

But $W(d,t) = \int_{\alpha+d}^{\beta+d} N(a)g(a-d,t-d)\, da$ and

$$B(a,d,t) = N(a)g(a-d,t-d)r(a,d,t), \text{ so that}$$

$$f(d,t) = \int_{\alpha+d}^{\beta} N(a)g(a-d,t-d)r(a,d,t)\, da/\int_{\alpha+d}^{\beta+d} N(a)g(a-d,t-d)\, da. \tag{A2}$$

At this point, the assumption of the same number of women at each child-bearing age is invoked. If $N(a)$ is a constant, it cancels from $f(d,t)$. With $N(a)$ canceled, the denominator of $f(d,t)$ in equation A2 becomes

$$\int_{\alpha+d}^{\beta+d} g(a-d,t-d)\, da.$$

If we let $x = a+d$, the denominator is

$$\int_\alpha^\beta g(x,t-d)\, dx, \text{ or the total first-marriage rate at time } t-d, \mathrm{TMR}(t-d).$$

If $f(d,t)$ is converted to $f^*(d,t)$ by being multiplied by $\mathrm{TMR}(t-d)$,

$$f^*(t,d) = \int_{\alpha+d}^{\beta} g(a-d,t-d)r(a,d,t)\, da; \text{ adjusted TDFR is}$$

$$\mathrm{TDFR}^* = \int_0^{\beta-\alpha} \int_{\alpha+d}^{\beta} g(a-d,t-d)r(a,d,t)\, da\, dd.$$

If one changes the order of integration,

$$\text{TDFR*} = \int_{\alpha}^{\beta}\int_{0}^{a-\alpha} g(a-d,t-d)r(a,t,d)\,dd\,da \text{ or TDFR*} = \text{TAFR}$$

(see Equation Al). QED.

Proof of proposition 2

In the proof of Proposition 1, an assumption that $N(a)$ is constant was introduced to make $f(d,t)$ independent of the age distribution. Suppose now that variation of $N(a)$ within the span of ages where there are women at duration d is approximated by an exponential, such that $N(a) \doteq Ke^{-ga}$. In a population with an average growth rate of r over this range and an average death rate of μ, g would equal $r + \mu$. With this approximation,

$$f(d,t) = \int_{\alpha+d}^{\beta} e^{-ga}g(a-d,t-d)r(a,d,t)\,da \Big/ \int_{\alpha+d}^{\beta+d} e^{-ga}g(a-d,t-d)\,da.$$

When the age distribution is constant, g is zero. What is the effect of a nonzero g on $f(d,t)$?

Let $f_0(d,t)$ be duration-specific fertility that would result from given $g(a-d,t-d)$ and $r(a,d,t)$ and a flat age distribution (so that $g = 0$), and consider the rate of change in $f(d,t), \frac{df(d,t)}{dg}$, as the steepness of the age distribution increases from zero.

$$\frac{df(d,t)}{dg} = \frac{\int_{\alpha+d}^{\beta} ae^{-ga}g(a-d,t-d)r(a,d,t)\,da \int_{\alpha+d}^{\beta+d} e^{-ga}g(a-d,t-d)\,da}{[\int_{\alpha+d}^{\beta+d} e^{-ga}g(a-d,t-d)\,da]^2}$$

$$+ \frac{\int_{\alpha+d}^{\beta+d} ae^{-ga}g(a-d,t-d)\,da \int_{\alpha+d}^{\beta} e^{-ga}g(a-d,t-d)r(a,d,t)\,da}{[\int_{\alpha+d}^{\beta+d} e^{-ga}g(a-d,t-d)\,da]^2},$$

or $\frac{df(d,t)}{dg} = f(d,t)(\bar{a}_d - \bar{a}_b)$, where $\bar{a}_d$ is the mean age of women at duration d (equal to the mean age at marriage at $t-d$ plus d) and $\bar{a}_b$ is the mean age at childbirth of ever-married women at duration d. Thus, for a small value of g, $f(d,t) = f_0(d,t)[1+g(\bar{a}_d-\bar{a}_b)]$.

The mean age at childbirth of women at duration d is the mean age of $w(a,d,t)r(a,d,t)$. If $r(a,d,t)$ were constant over the relevant ages, $\bar{a}_b$ would equal $\bar{a}_d$. But marital fertility at duration d often declines with age. Suppose the average proportionate decline over the central ages of women at duration d is h. Then

$$\bar{a}_b = \int_{\alpha+d}^{\beta} a w(a,d,t) r(a,d,t)\, da / \int_{\alpha+d}^{\beta} w(a,d,t) r(a,d,t)\, ad \text{ becomes}$$

$$\bar{a}_b = \int_{\alpha+d}^{\beta+d} a e^{-ha} g(a-d,t-d)\, da / \int_{\alpha+d}^{\beta+d} e^{-ha} g(a-d,t-d)\, da.$$

If h is zero, $\bar{a}_b$ is simply the mean age of women at duration d, or $\bar{a}_d$. To approximate the value of $\bar{a}_b$ for a small value of h, take the derivative of $\bar{a}_b$ with respect to h, evaluated at $h = 0$.

$$\frac{d\bar{a}_b}{dh} = \frac{-\int_{\alpha+d}^{\beta+d} a^2 e^{-ha} g(a-d,t-d)\, da}{\int_{\alpha+d}^{\beta+d} e^{-ha} g(a-d,t-d)\, da} + \frac{[\int_{\alpha+d}^{\beta+d} a e^{-ha} g(a-d,t-d)\, da]^2}{[\int_{\alpha+d}^{\beta+d} e^{-ha} g(a-d,t-d)\, da]^2}, \text{ or}$$

$[\frac{d\bar{a}_b}{dh}]_{h=0} = \sigma_d^2$, the variance of the age distribution of women at duration d. Thus, for small values of h, $\bar{a}_b = \bar{a}_d - h\sigma_d^2$, or $\bar{a}_d - \bar{a}_b$ equals $h\sigma_d^2$. Since $f(d,t)$ with an age distribution that falls off at a rate e^{-ga} *is* $f_0(d,t)[1+g(\bar{a}_d-\bar{a}_g)]$, if the fertility schedule for women at duration d falls off at a rate of e^{-ha}, $f(d,t) = f_0(d,t)(1+gh\sigma_d^2)$. QED.

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Panel on Indonesia

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PREFACE

The Committee on Population and Demography was established in April 1977 by the National Research Council in response to a request by the Agency for International Development (AID) of the U.S. Department of State. It was widely felt by those concerned that the time was ripe for a detailed review of levels and trends of fertility and mortality in the developing world. Although most people in the demographic community agreed that mortality had declined in almost all developing countries during the last 30 years, there was uncertainty about recent changes in mortality in some countries, about current levels of fertility, about the existence and extent of recent changes in fertility, and about the factors determining reductions in fertility.

In 1963, a Panel on Population Problems of the Committee on Science and Public Policy of the National Academy of Sciences published a report entitled *The Growth of World Population*. The appointment of that panel and the publication of its report were expressions of the concern then felt by scientists, as well as by other informed persons in many countries, about the implications of population trends. At that time, the most consequential trend was the pronounced and long-continued acceleration in the rate of increase of the population of the world, and especially of the population of the poorer countries. It was estimated in 1963 that the annual rate of increase of the global population had reached 2 percent, a rate that, if continued, would cause the total to double every 35 years. The disproportionate contribution of low-income areas to that acceleration was caused by rapid declines in mortality combined with high fertility that remained almost unchanged: The birth rate was nearly fixed or declined more modestly than the death rate.

Since the earlier report, however, the peak rate of growth in the world's population has apparently been passed. A dramatic decline in the birth rate in almost all the more developed countries has lowered their aggregate annual rate of increase to well below 1 percent, and the peak rate of increase has also apparently been passed in the less developed parts of the world as a whole. A sharp decline in fertility in many low-income areas has more than offset the generally continued reduction in the death rate, although the rate of population increase remains high in almost all less developed countries.

The causes of the reductions in fertility—whether they are the effect primarily of such general changes as lowered infant mortality, increasing education, urban rather than rural residence, or improving status of women, or of such particular changes as spreading knowledge of and access to efficient methods of contraception or abortion—are strongly debated. There are also divergent views of the appropriate national and international policies on population in the face of these changing trends. The differences in opinion extend to different beliefs and assertions about what the population trends really are in many of the less developed countries. Because births and deaths are recorded very incompletely in much of Africa, Asia, and Latin America, levels and trends of fertility and mortality must be estimated, and disagreement has arisen in some instances about the most reliable estimates of those levels and trends.

It was to examine these questions that the Committee on Population and Demography was established within the Commission on Behavioral and Social Sciences and Education of the National Research Council. It was funded for a period of five and one-half years by AID under Contract No. AID/pha-C-1161 and Grant No. AID/DSPE-G-0061. Chaired by Ansley J. Coale, the committee has undertaken three major tasks:

1. To evaluate available evidence and prepare estimates of levels and trends of fertility and mortality in selected developing nations;
2. To improve the technologies for estimating fertility and mortality when only incomplete or inadequate data exist (including techniques of data collection);
3. To evaluate the factors determining the changes in birth rates in less developed nations.

Given the magnitude of these tasks, the committee decided to concentrate its initial efforts on the first two tasks; it initiated work on the third task in 1979.

By 1982, 168 population specialists, including 94 from developing countries, had been involved in the work or the committee as members of panels or working groups. The committee, the commission, and the National Research Council are grateful for the unpaid time and effort these experts have been willing to give.

The committee approached the first task through careful assessment, by internal and external comparison, and through analysis, by application of the most reliable methods known, of all the data sources available. Each of the country studies therefore consists of the application of a range of methods to a number of data sets. Estimates of levels and recent trends judged to be the best that were feasible with available resources were then developed on the grounds of their consistency and plausibility and the robustness of the individual methods from which they were derived.

The committee's second task, refinement of methodology, was seen as a by-product of achieving the first. The application of particular methods to many different data sets from different countries and referring to different time periods inevitably provided valuable information about the practical functioning of the methods themselves. Particular data sets might also require the development of new methodology or the refinement of existing techniques.

The third task of the committee, evaluation of factors determining birth rates, was the most difficult. Research on the determinants of fertility change has been carried out by scholars from several disciplines, and there is no comprehensive accepted theory of fertility change to guide the evaluation. Because of this state of knowledge of the causes of reductions in fertility and the difficulty of the task, the committee and the Commission on Behavioral and Social Sciences and Education established the separately funded Panel on Fertility Determinants, which included scholars from anthropology, demography, economics, epidemiology, psychology, sociology, and statistics. Three committee members served on the panel.

This report, on levels and recent trends of fertility and mortality in Indonesia, was to be Report No. 29 in a series of reports issued by the Committee on Population and Demography. It is the result of work by the Panel on Indonesia, created by the committee and the Commission on Behavioral and Social Sciences and Education in 1978. The panel met twice and also sponsored a workshop in Bali, Indonesia, at which several papers were presented and discussed. The Indonesian members of the panel were particularly helpful with the organization of this workshop. In addition to all panel members, the workshop participants included several scholars and officials from Indonesia.

Drawing upon the papers prepared for the workshop and more recent materials including available data from the 1980 census, initial draft sections of this report were written by panel members and staff. Subsequently, Geoffrey McNicoll reorganized and revised these sections into a draft report. Then, in the summer of 1983, Griffith Feeney and William Brass, a member of the Committee on Population and Demography, reworked the fertility and mortality sections at the East-West Population Institute. Finally, in 1984, data from the 1980 census became available for the calculation of additional fertility estimates, and panel member Si Gde Made Mamas arranged for the preparation of necessary tabulations for inclusion in this report. Throughout this process, Robert J. Lapham provided staff support for the panel.

The Committee on Population and Demography, which commissioned this report, disbanded after completion of the larger project of which this report was a part. Not all of the reports that the committee had scheduled could be completed within the original timetable due to delays in data availability or published tabulations. It is a credit to the members of the Panel on Indonesia that they continued to work on this report after their obligations officially ended.

Even after the report had been completed, a shortage of funds made publication impossible. The committee and the Panel on Indonesia are particularly grateful to the East-West Population Institute for supplying the resources needed for publication. The Committee on Population was established as a successor to the Committee on Population and Demography. The members of the new committee are pleased to issue this report and to thank their colleagues on the Panel on Indonesia and the Committee on Population and Demography for their work on the report.

The committee is grateful to the many organizations and individuals who have contributed to this report. In Indonesia, the Central Bureau of Statistics provided necessary data for estimating fertility and mortality, and the National Family Planning Coordinating Board provided information for the calculation of contraceptive prevalence estimates. In addition, the Central Bureau of Statistics provided computer tabulations and other materials. The East-West Population Institute, The Population Council, and The Australian National University assisted by supporting the volunteer panel members at these institutions and by providing computer time and secretarial support. Support for publication of this report was provided in part by the Office of Population, U.S. Agency for International Development, under a cooperative agreement with the East-West Population Institute.

Several individuals assisted with the many report production details. Lucy Santiago typed the text and tables at the Academy. Rona Briere and Sandra Ward edited the report, and Elaine McGarraugh, once again, applied her skills to the production-editing details. The committee extends its gratitude to these individuals and institutions for their contributions to the project.

Albert I. Hermalin, Chair
Committee on Population

SUMMARY

With an estimated 162 million inhabitants in 1984, Indonesia ranks fifth in population size among all countries and third (after China and India) among the less developed countries. Moreover, during the recent period of rapid economic change and government activity in many spheres, including population and health, considerable uncertainty has surrounded estimates of population trends in Indonesia. However, with an expansion of the empirical record in recent years, especially since the mid-1970s, the range of uncertainty has been narrowed.

The principal sources used to construct the estimates presented in this report are the 1961, 1971, and 1980 Population Censuses, the 1973 Fertility-Mortality Survey, and the 1976 Intercensal Population Survey (SUPAS) which included the Indonesian Fertility Survey in Java and Bali. Drawing upon and with further analysis of this data base, this report describes the levels and trends in mortality, nuptiality, fertility, and use of contraception in Indonesia. The context for these trends has been the establishment of a new political order in 1966–67 that led to a strong, development-minded government, followed by economic stabilization measures, an inflow of foreign aid, and the OPEC oil price surge. Among many measures enacted to spur economic growth and social development, the government made a strong policy commitment to reduce fertility, and quickly translated this into a vigorous family planning program that during the 1970s gradually increased its coverage throughout the country after beginning in the populous islands of Java and Bali. Other social policies were translated into programs to increase educational attainment, reduce child mortality, and to a lesser extent increase age at marriage. Together, these political, economic, social, and cultural changes, coupled with the widespread availability of the means of effective fertility control provided by the family planning program, have contributed to the declines in fertility and mortality described below. A companion report in the committee series presents a detailed discussion of these influences (see *Fertility Decline in Indonesia: Analysis and Interpretation,* National Academy Press, 1983).

Mortality

Data limitations, including the absence of a complete or nationally representative vital registration system, preclude exact measurements of child, infant, and adult mortality. Nevertheless, the application of various indirect estimation techniques makes possible the construction of estimates.

Child and infant mortality. Table S.1 presents estimates of the proportions of children dying by exact age 2 and exact age 5 for Indonesia, Java, and the islands outside Java. Although the data sources are the 1971 cen-

Table S.1. Estimates of the Proportion of Children Dying before Exact Ages 2 and 5, by Region, Late 1960s and Early 1970s: Indonesia

	Proportion dying by exact age			
	Two (${}_2q_0$)		Five (${}_5q_0$)	
Region	1971 census (mid-1969)	1976 SUPAS (late 1973)	1971 census (mid-1968)	1976 SUPAS (late 1972)
Indonesia	.18	.14	.21	.16
Java	.18	.14	.21	.17
Jakarta	.15	.11	.19	.12
West Java	.21	.17	.25	.21
Central Java	.17	.13	.21	.15
Yogyakarta	.12	.11	.13	.12
East Java	.15	.13	.18	.15
Outside Java	.18	.13	.22	.16
Sumatra	.18	.12	.21	.13
Kalimantan	.18	.12	.21	.13
Sulawesi	.19	.14	.22	.17
Bali	.15	.12	.19	.14
Other islands	.23	—	.27	—

Source: Table 6.

sus and the 1976 Intercensal Population Survey, the estimates refer to the late 1960s and early 1970s. In that period, child mortality declined rather substantially, but remained at high levels. For example, around 1968–69 about 18 percent of children died before reaching a second birthday, and more than one in five (21.3 percent) did not see a fifth birthday. These proportions declined to roughly 14 and 16 percent in the early 1970s. Because of the possible undercounting of deaths in the 1976 survey, the actual declines may not be quite as much as indicated by these trends, but the decline is significant nevertheless. Note the regional variation in Table S.1: In the early 1970s, despite declining trends, about one in five children in West Java still died before age 5, compared with a little more than one in ten in Yogyakarta.

Recognizing that the degree of validity is lower for regional trends, Table S.1 and Figure S.1 suggest that mortality declines were greatest in Jakarta and Sumatra and lowest in Kalimantan, Yogyakarta (but low in comparison with other regions), and East Java. Overall, despite the uncertainties, it can be said with reasonable confidence that mortality up to the age of 5 was about 160 per 1,000 in the early to mid-1970s, having declined from 210 per 1,000 several years earlier.

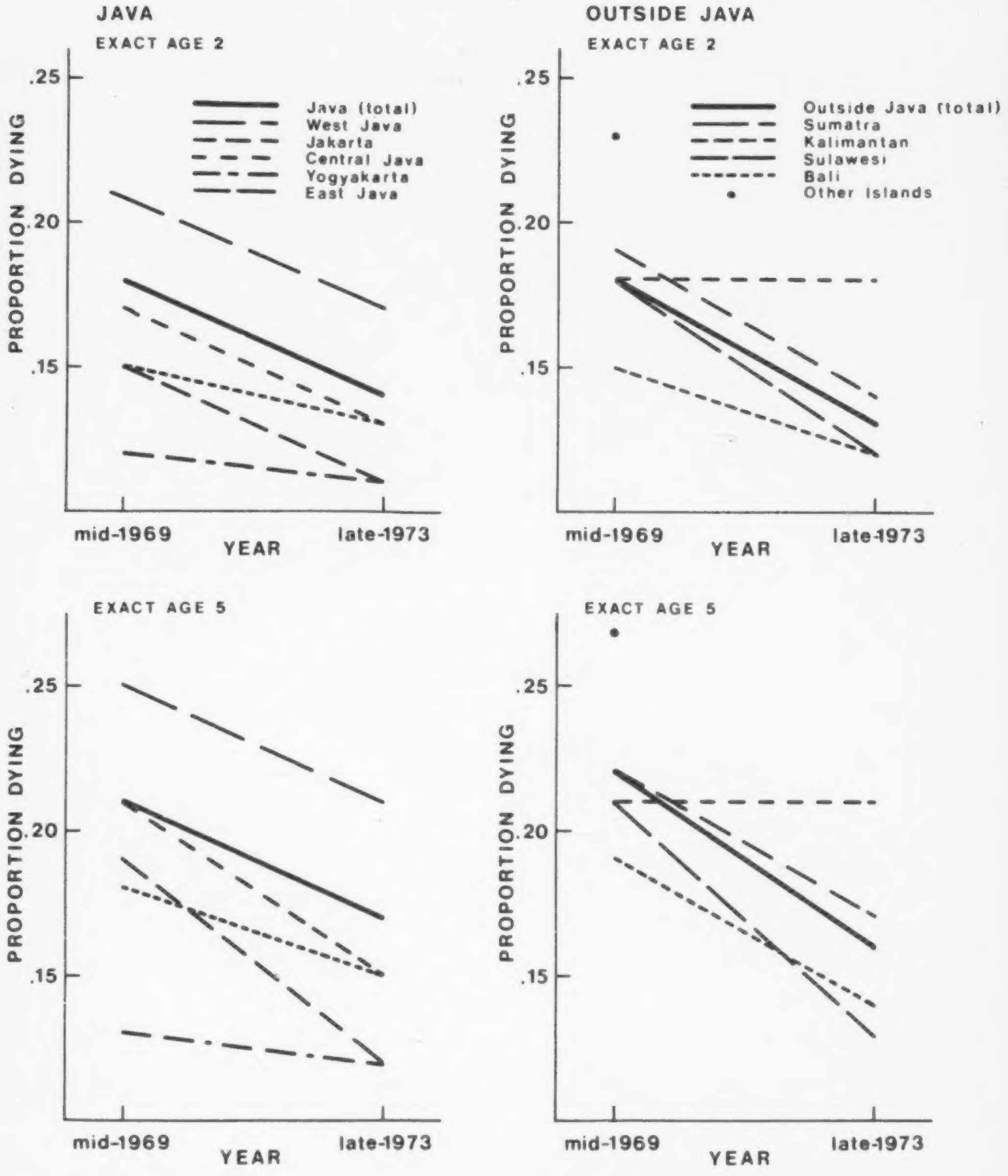

Figure S.1. Regional Trends in the Proportion of Children Dying by Exact Ages 2 and 5, Late 1960s and Early 1970s, as Assessed from Two Major Data Sources: Indonesia

Sources: 1971 census and 1976 Intercensal Survey; see Table 6.

Table S.2. Expectations of Life at Age *x*, from Estimated Indonesian Life Tables for Males and Females, Mid-1970s: Indonesia

	Expectation of life at age *x*	
Age	Males	Females
0	48.9	51.6
1	54.2	56.0
5	53.8	55.4
10	50.1	51.8
15	45.8	47.3
20	41.5	43.0
25	37.2	38.8
30	33.1	34.7
35	29.0	30.8
40	25.2	26.9
45	21.6	23.1
50	18.2	19.3
55	15.0	15.8
60	12.3	12.9
65	9.8	10.3
70	7.7	8.1
75	5.9	6.2

Source: Table 17.

Turning to infant mortality, by using a pattern of relationships between child and infant mortality, estimates of the latter can be derived from the former. Given problems with the data, it is difficult to establish with any degree of certainty which of several available patterns of relationships pertains in Indonesia. Nevertheless, available clues and the application of indirect techniques to the data permit estimation: Infant mortality is estimated at about 105 for the early to mid-1970s, down from about 130 ten years earlier.

Adult mortality. Conclusions about the levels and trends in adult mortality are even more uncertain, but they are presented as the results of demographic detective work and the application of several techniques including growth-balance and survivorship methods. The results are summarized in life tables for males and females as of the mid-1970s, from which the expectation of life at age *x* is presented in Table S.2. At birth, the expectation of life is about 50, slightly more for females and slightly less for males. Note that at ages 5 and 10, the expectation of life is greater for each sex than at birth, a reflection of the high levels of infant and child mortality.

Table S.3. Ages at Which 50 Percent of Urban and Rural Women Aged 20–24 Had Married, by Region, 1976 Intercensal Population Survey: Indonesia

Region	Total	Urban	Rural
Indonesia	18.3	20.5+[a]	17.9
Java	17.8	20.4	17.3
Jakarta	19.6	19.6	—
West Java	17.2	20.1	16.9
Central Java	17.7	20.5+	17.3
Yogyakarta	20.5+	b	20.5+
East Java	17.9	20.5+	17.9
Outside Java	19.3	20.5+	18.9
Sumatra	18.8	20.4	18.5
Kalimantan	18.7	20.5+	18.3
Sulawesi	20.4	20.5+	20.1
Bali	20.3	b	20.0
Other islands	20.0	b	19.6

a. For age group 20–24, the median frequency falls within the age group. This means that the ultimate median for this age group may still be affected by the future marriages of women aged 20–24. In these instances, the result has been written as 20.5+, except where the median is only a little greater than 20.

b. Unreliable because of small sample size.

Source: Table 20.

Nuptiality

As with the mortality measures, the various data sources do not provide fully consistent estimates of nuptiality. Nevertheless, the occurrence of fairly early age at marriage for females, with considerable regional variation, is apparent. The results from the 1976 Intercensal Population Survey are shown in Table S.3. Note that age at marriage for women is highest in Bali, Sulawesi, and Yogyakarta, with the median age exceeding 20 for rural women aged 20–24 in 1976. The high age at marriage in Yogyakarta is the result of a strong upward trend over time; in the case of Bali, the median age at marriage has been high for a long time and may even have decreased slightly in recent years. In urban areas, a strong upward trend in marriage age is evident throughout Indonesia; the median age at first marriage now exceeds 20 in all urban areas, with the interesting exception of Jakarta, the capital and largest city of Indonesia.

In rural areas, there appears to have been little increase in age at marriage among women between ages 25 and 50 in 1976, with the major exception of rural Yogyakarta, and to a lesser extent Central and East Java.

However, data for rural women aged 20–24 in 1976 indicate a clear movement to a higher age at marriage. Finally, the urban–rural difference in age at marriage is much wider within than outside Java; in fact, for women aged 30–49 living outside Java, there was very little difference in age at marriage between rural and urban areas. Overall, it used to be that 50 percent of Indonesian women married before their seventeenth birthday. For women aged 20–24 in 1976, this age had risen to 18.3 years. Therefore, age at marriage is increasing, but slowly.

Turning to marital disruption and remarriage, using the 1976 Intercensal Population Survey, between 35 and 45 percent of women aged 40–49 in Java had married more than once. Outside Java, this proportion was much lower. Most of this remarriage would have occurred subsequent to divorce rather than widowhood. The lowest rates of multiple marriage occurred in Bali and the highest in West Java.

One important conclusion from this assessment, despite methodological reservations, is that changes in marriage patterns during the first half of the 1970s had little impact on fertility. This outcome may reflect the relative lack of emphasis on increased age at marriage in Indonesian population and social policy in comparison with the attention given to marital fertility.

Fertility

In addition to the data sources used to estimate mortality and nuptiality, initial tabulations from the 1980 census are available for the construction of fertility estimates. Two principal fertility estimation methods used in this report are the Cho–Graybill "own-children" procedure and adjusted reverse survival, which involve the backward projection of numbers of mothers and children within households to the time of each birth and aggregation over households, and taking into account necessary adjustments and imputation rules. In addition, the gross underenumeration of children under age 1, especially in the 1971 census, compels a grouping of the data into broader age groups, using ranges chosen to minimize age-heaping distortions. One result of such grouping is that the fertility estimates are centered on a period some years prior to the data collection date. Thus, even though the necessary tabulations from the 1980 census became available in 1984, the period to which the fertility estimates refer is 1976–78. Given the interest in the effects of Indonesia's family planning program on fertility over time, this delay of several years is unfortunate, but must be accepted as the result of data limitations and processing time frames associated with censuses.

With these and other limitations in mind, Figure S.2 presents various estimates of fertility trends. (Because the estimates refer to periods of several years, caution must be exercised in reading single-year estimates from this figure.) The picture is reasonably coherent. Total fertility was about 5.5 in 1967-70 and not much different back to the late 1950s. By 1971-75, it was around 5.2. In the late 1970s, the rate had fallen to perhaps 4.8, including an allowance for an expected decrease in infant mortality. A regular downward trend in fertility of a little over 1 percent a year is suggested.

The own-children estimates from the 1980 census are also shown in Figure S.2. The agreement between the own-children and the reverse-survival estimates is very close, although the pattern of change is somewhat different. For the two later periods, 1971-75 and 1976-78, the two estimates are essentially identical. For the earlier period, 1967-70, the own-children estimate is about 6 percent below the reverse-survival estimate. The own-children estimates thus confirm the overall picture of fertility change presented here.

The 1980 census age distribution estimates show a rapid fertility decline in the three years before the census. However, this may be due to a combination of omissions of very young children and age errors. Something similar occurred in the 1971 census, although the pattern was not exactly the same. In addition, it is now clear that the births in the two or three years preceding were considerably underreported in both the Indonesian Fertility Survey and the Fertility-Mortality Survey, presumably because of time location errors. This experience emphasizes the dangers of drawing conclusions about current fertility levels from such exercises; the data are not strong enough to determine whether the rate of fertility decline was accelerating in the late 1970s.

Regional patterns are of note, shown in Figure S.3 for the period from 1967-70 to 1971-75, using the Intercensal Population Survey estimates. Fertility levels varied by region prior to the onset of the fertility declines around 1970. Note in particular East Java and Sumatra, where the differential in the total fertility rate was 1.8 in each time period, both regions having declined by about 0.3 births.

The declines in fertility since the late 1960s, and the relatively minor contribution of age-at-marriage changes, have occurred during a period that experienced a substantial and rapid increase in the use of modern means of fertility control in Indonesia, especially in East Java and Bali, with the government family planning program the principal source of family planning supplies and services. Figure S.2 also shows the trends in contraceptive prevalence in Indonesia, based on service records and postulated user continuation rates (but roughly in agreement with independent survey estimates of contraceptive practice). This amount of change in fertility control is notable. These estimated trends in contraceptive prevalence lend another element of consistency to the general picture regarding fertility decline in Indonesia since about 1970.

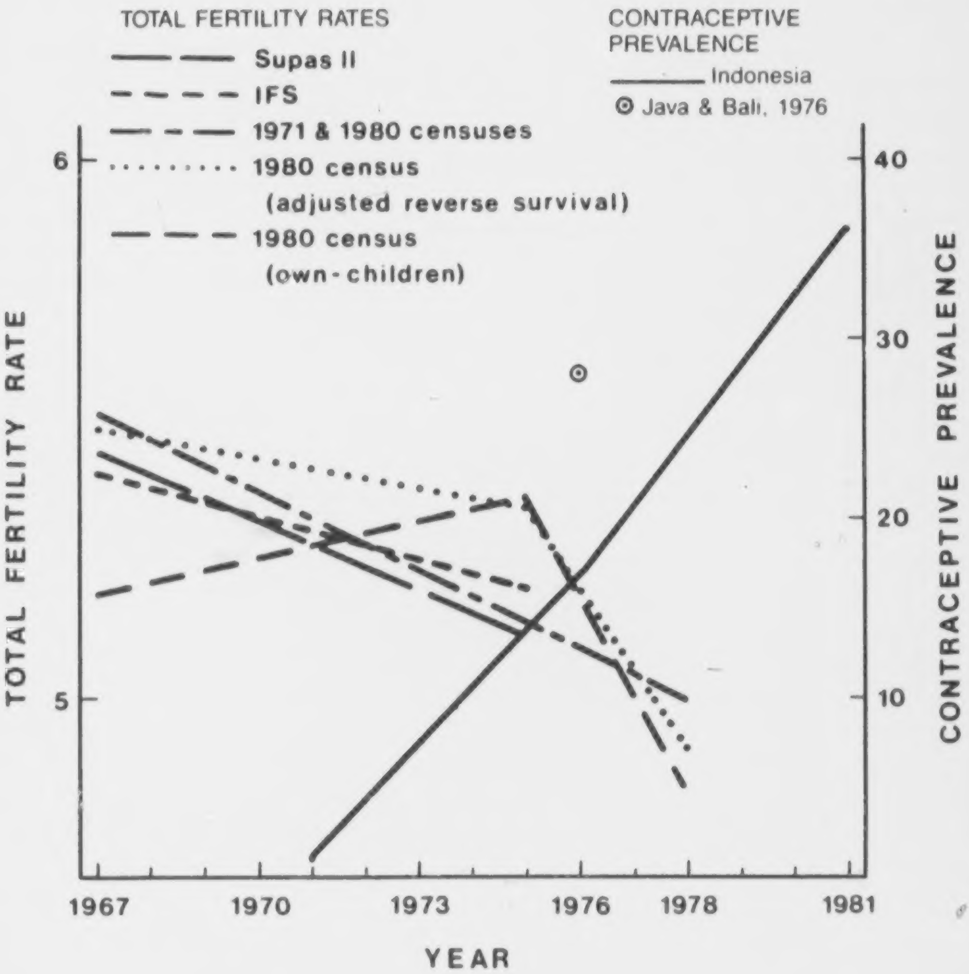

Figure S.2. Trends in Total Fertility Rates, 1967-78, and Trends in Contraceptive Prevalence, 1971-81, from Various Sources: Indonesia

Sources: Total fertility rates: Table 33; contraceptive prevalence, Indonesia, 1971-81: family planning program statistics; contraceptive prevalence, Java and Bali, 1976: World Fertility Survey data.

Notes: Contraceptive prevalence is the percentage of married women of reproductive ages (15-44) who were using contraception. Some of the TFR curves have been smoothed; see text (Chapter 5) for a discussion of how the estimates of total fertility were obtained.

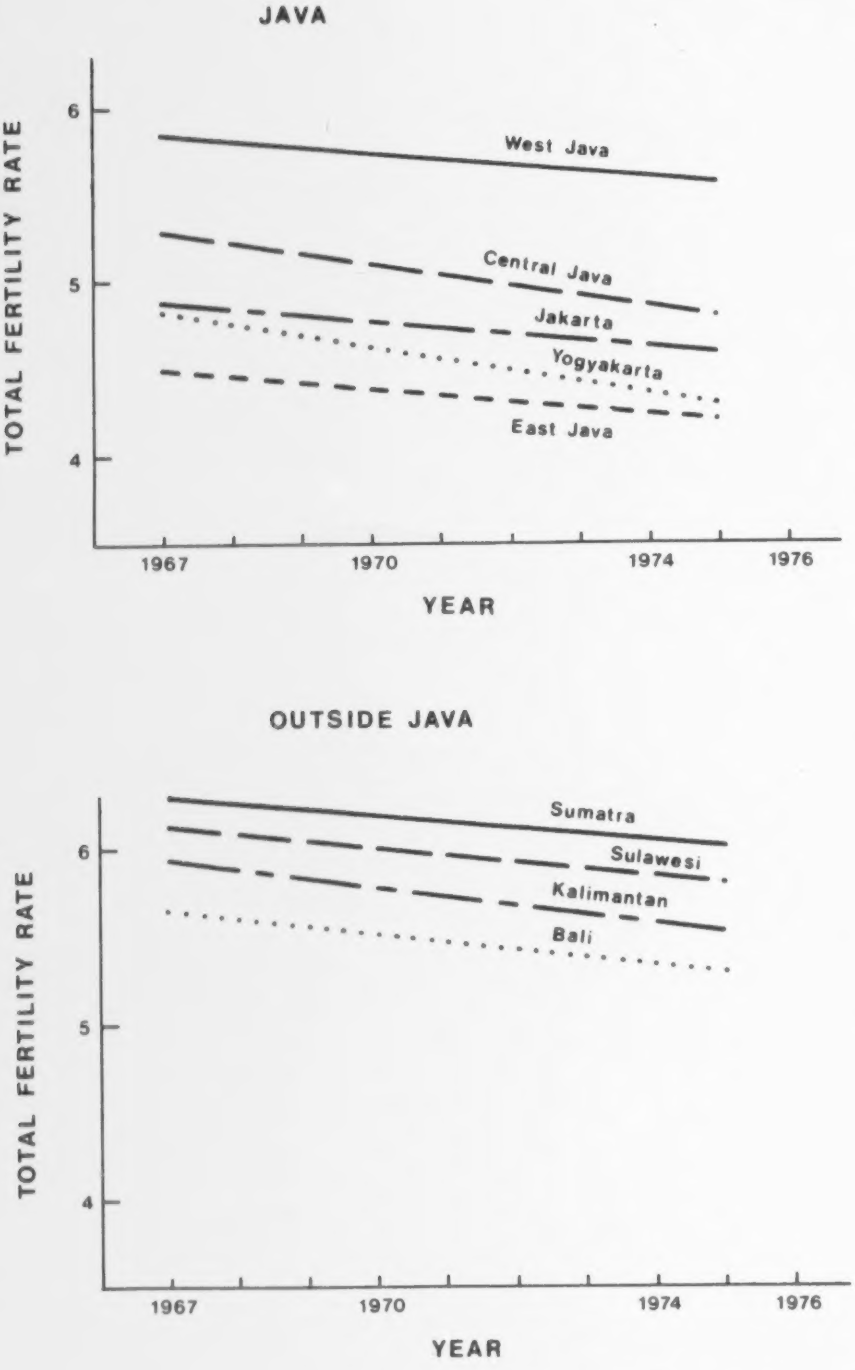

Figure S.3. Regional Fertility Trends, 1967–70 to 1971–75: Indonesia

1 INTRODUCTION

Purpose and Scope

The purpose of this study is to estimate the levels and trends of fertility and mortality for Indonesia using all relevant data sources. Both traditional and recently developed demographic techniques are employed. In addition to estimates for the country as a whole, fertility and mortality patterns for the major regions are discussed. The scope of this study does not include the determinants of the demographic trends revealed, which are addressed in the panel's report *Fertility Decline in Indonesia: Analysis and Interpretation* (National Academy Press, 1983). It does, however, include information on two of the proximate fertility determinants: nuptiality and prevalence of contraceptive use.

Background

Indonesia's recent and current demographic experience is the object of intense interest on the part of demographers and others concerned with population trends, both within the country and elsewhere. Part of this interest reflects Indonesia's sheer demographic weight in the world: With an estimated 162 million inhabitants in 1984, it ranks fifth in population size among all countries and third (after China and India) among the less developed countries. More particularly, there is interest in the possible demographic consequences of the period of rapid economic change and of government activity in the spheres of population and health described below. At the same time, considerable uncertainty has continued to surround estimates of population trends in Indonesia. This uncertainty has permitted a range of demographic pictures to co-exist, each with some basis in the empirical record; only in the last few years has the data base expanded enough to narrow this range.

In general, Indonesia's fertility has declined significantly since the 1960s, with total fertility (the number of children born to a woman over her reproductive life under prevailing fertility patterns) declining from about 5.5 in 1967-70 to about 4.7 for 1976-79 (based on the 1980 census). The backdrop for this change was the establishment of a new political order in 1966-67 following years of increasing conflict. The stronger, more stable government that resulted introduced successful economic stabilization measures; these were followed by an export recovery, a renewed inflow of foreign aid, and the OPEC oil price surge. The result was Indonesia's first period of rapid economic growth since the early 1950s, accompanied by a profusion of imported consumer goods and greater exposure to Western cultural influences. The government also made a policy commitment to lower fertility; this was translated into a vigorous family planning program that included a distribution network for modern contraceptives and campaigns to promote their use. There were also continuing trends in improving literacy and average educational attainment, declining (though still high) child mortality, and an increase in average age at marriage. Together, these political, economic, social, and cultural changes have contributed to Indonesia's fertility decline. The reader is referred to the report cited above *(Fertility Decline in Indonesia)* for a detailed discussion of these influences.

Organization of This Study

The next chapter of this study describes the major sources of the fertility and mortality data available for Indonesia; it also addresses the question of age distribution data, errors which must be considered in the estimation of fertility and mortality. This is followed by chapters on mortality, nuptiality, and fertility and contraceptive prevalence.

2 DATA SOURCES AND AGE DISTRIBUTION ANALYSIS

This chapter discusses the major data sources used in this report, including censuses, surveys, and a sample vital registration project. Because of the importance of age distribution analysis for assessing data quality and for the application of indirect estimation techniques, the chapter also analyzes Indonesian age distribution data.

Data Sources

The major sources of data for estimates of fertility and mortality in postwar Indonesia are the 1961, 1971, and 1980 Population Censuses, the 1973 Fertility-Mortality Survey, and the 1976 Intercensal Population Survey. These are described briefly below. The 1974-77 Sample Vital Registration Project also provides some useful comparative data. In general, however, despite a long history of formal registration requirements, vital statistics remain seriously incomplete and offer little basis for estimation; the various rounds of the multipurpose National Socio-Economic Survey (SUSENAS) have also not proven a reliable source of demographic information.

1961 Population Census. This census, taken in October 1961 following a household listing in March, covered the whole of Indonesia within its present boundaries, except for Irian Jaya and East Timor. (The official 1961 census figure for total population, 97.0 million, includes an estimate of 700,000 persons for Irian Jaya.) Ninety percent of the rural returns were hand-processed in the regional statistical offices, but for only a small number of characteristics (not including age). Urban returns and a 10 percent sample from rural areas were to be machine-processed in Jakarta. However, this work was delayed and ultimately halted by the economic and political turmoil of the mid-1960s, by which time provincial tabulations had been completed only for Jakarta, Yogyakarta, and East Java. Thus, the only available data from this census for the whole of Indonesia come from preliminary tabulations based on an initial hand count and processing of a 1 percent sample of the returns, taken in 1962 to provide some early results for planning purposes. These data provide only aggregated age distributions (five-year groups up to age 25, ten-year groups at higher ages), and do not include information on children ever born or still living. Virtually none of the unpublished census materials held by the Central Bureau of Statistics survived the decade (the main exception being village totals in Java, disinterred and published by the Population Institute of Gadjah Mada University in the late 1970s). See Widjojo (1970) for a discussion of this census and its findings.

1971 Population Census. A household listing was made in July 1970 and a two-stage enumeration carried out in September–October 1971. The first stage was a complete enumeration using a simple form asking only for broad age group, sex, and citizenship; the second stage was a sample enumeration (with an overall sampling fraction of 3.8 percent) using both a household and an individual questionnaire. The census covered all of present Indonesia except East Timor (annexed in 1976), whose population in a 1970 Portuguese census came to 609,000. The 1971 census data were published by the Central Bureau of Statistics in 26 province reports. Detailed census-based fertility and child mortality estimates derived from "own-children" tabulations and retrospective child survivorship rates are presented and analyzed in Cho et al. (1976, 1980); a description of the census is given in Suharto et al. (1976).

1980 Population Census. This census, conducted in September–October 1980, followed the broad design of the 1971 census, with a complete and sample enumeration. A preliminary total count, 147.4 million, was issued at the end of 1980. Full results were not available prior to preparation of this report, which draws on only the total counts for Indonesia and its major regions, the census age distribution, and some own-children fertility estimates.

1973 Fertility–Mortality Survey. Undertaken by the Demographic Institute of the University of Indonesia, this survey was administered to a sample of 54,000 households in Java, Sumatra, Sulawesi, and Bali (some 86 percent of the total population of Indonesia). Directed specifically at estimation of fertility and mortality, it included a detailed pregnancy history, as well as questions on knowledge and practice of family planning. The organization and major findings of this survey are reported in McDonald et al. (1976).

1976 Intercensal Population Survey. Usually referred to by its Indonesian acronym SUPAS (Survey Penduduk Antar Sensus), this was a major enterprise involving a three-round survey directed by the Central Bureau of Statistics. The first round, SUPAS I, sought basic information on household size and composition for a large sample (257,000 households, covering all regions). SUPAS II collected more detailed demographic and socioeconomic information from a subsample of the original sample (60,000 households, also covering the whole country). This was the most comprehensive part of the undertaking; the topics covered included economic characteristics of the household and its members, marital and divorce history, fertility experience and desire for additional children, contraceptive knowledge and practice, and population movement. Finally, SUPAS III, sometimes called the Indonesia Fertility Survey (IFS), used an adaptation of the World Fertility Survey core questionnaire; it was based on a sample of 10,000 households drawn from the first-round listing, but in Java and Bali only. The sample scheme and questionnaire details for the whole Intercensal Population Survey are described in Indonesia, Biro Pusat Statistik (1976). Preliminary results of SUPAS I can be found in Suharto and Cho (1978); results of SUPAS III have been distributed in various World Fertility Survey publication series, and most notably as the Indonesia Fertility Survey Principal Report (see Indonesia, Biro Pusat Statistik, 1978).

1974–77 Sample Vital Registration Project. This project was undertaken by the Central Bureau of Statistics (in collaboration with the National Family Planning Coordinating Board) over 1974–77, with a primary goal of assessing the completeness of the existing vital registration system and recommending improvements. (Average completeness of registration in the sample areas, covering each of the major regions of Indonesia, was estimated to be 56 percent for births and 64 percent for deaths.) A second aim of the project was to estimate fertility, mortality, and population growth rates in the project areas, based on a dual-record system (continuous registration and retrospective household surveys) operated over the life of the project. Although the resulting estimates cannot serve as representative national or regional data, in the present report the mortality age pattern derived from this source is used for comparison purposes. Details and findings of the project may be found in Indonesia, Biro Pusat Statistik (1979).

Age Distribution

Age distribution analysis is significant in two ways: It provides a general impression of data quality, and it serves as a preliminary to producing indirect estimates of fertility and mortality that are derived wholly or partly from age distribution data. In this section we assess the quality of Indonesian age data, chiefly by examining the consistency of successive national-level enumerations, and then develop corrected age distributions for use in the analyses presented in the chapters that follow. We take note in passing of the controversy that has surrounded this topic—in particular, the issue of whether the postwar census data, showing relatively smaller numbers among survivors of the 1940s birth cohorts than among neighboring cohorts, were a true reflection of prevailing conditions in that decade or merely resulted from later enumeration errors.

Indonesian age distributions are available for 1961, 1971, 1976, and 1980. The population boundaries were essentially identical for the 1961 and 1971 distributions, derived from the censuses of those years, except for Irian Jaya, which was not enumerated in 1961. (An addition of 700,000 was made to the 1961 enumerated total to allow for this region, then under Dutch administration.) The 1976 distribution, however, comes from SUPAS I, which

Table 1. Population by Sex and Five-Year Age groups, Census of 31 Oc-
tion Survey, Stage 1 (SUPAS I), 1 March 1976, and Census of 31

	1961 census[a]			1971 census[b]		
Age group	Male	Female	Both sexes	Male	Female	Both sexes
0-4	8,462	8,580	17,042	9,653	9,508	19,161
5-9	7,684	7,639	15,323	9,577	9,295	18,872
10-14	4,318	3,861	8,179	7,326	6,902	14,228
15-19	3,834	3,874	7,708	5,643	5,748	11,391
20-24	3,452	4,339	7,791	3,556	4,405	7,961
25-29	3,821	4,852	8,673	4,033	5,009	9,042
30-34	3,513	3,690	7,203	3,664	4,230	7,894
35-39	3,298	2,956	6,254	4,019	4,061	8,080
40-44	2,422	2,408	4,830	3,003	3,026	6,029
45-49	1,913	1,759	3,672	2,399	2,248	4,647
50-54	1,646	1,725	3,370	1,888	1,947	3,835
55-59	870	795	1,665	1,074	1,061	2,135
60-64	1,027	1,056	2,083	1,034	1,189	2,223
65-69	401	404	805	535	586	1,121
70-74	394	425	819	491	570	1,061
75+	378	406	784	379	391	770
Not stated	60	57	117	4	4	8
Total	47,494	48,825	96,319	58,279	60,181	118,460

a. Irian Jaya excluded. Age data are from a 1 percent sample of returns. Revised 1961 census total is 96,385,348, or 97,085,348 including guess of 700,000 for Irian Jaya.

b. Age data are from advance tables (10 percent sample); revised 1971 census total is 119,208,229.

c. Coverage incomplete in three eastern provinces: Nusatenggara Timur, Maluku, and Irian

effectively excluded several eastern provinces of the country, and is therefore not directly comparable to the earlier sources. It can be made comparable if the four eastern provinces of Nusa Tenggara Barat, Nusa Tenggara Timur, Maluku, and Irian Jaya are excluded. Timor Timur, annexed in 1976, was covered by the 1980 census but not by any of the earlier enumerations. We designate the total population of Indonesia excluding these four eastern provinces and Timor Timur by the phrase "Indonesia 22 provinces."

The five-year age distribution data from the four sources are shown in Table 1 and plotted in Figure 1. The numbers for 1961 and 1971 refer to the total population of Indonesia, with the minor exceptions noted in the table, and the numbers for 1976 to the Indonesia 22 provinces subpopula-

tober 1961, Census of 24 September 1971, Intercensal Popula-
October 1980 (in 1,000s): Indonesia

1976 survey[c]			1980 census[d]		
Male	Female	Both sexes	Male	Female	Both sexes
9,621	9,309	18,930	10,874	10,423	21,297
9,309	8,987	18,296	10,891	10,448	21,338
8,104	7,755	15,859	9,181	8,527	17,707
6,592	6,938	13,530	7,553	7,807	15,360
4,771	5,111	9,882	6,011	7,055	13,066
3,853	4,429	8,282	5,643	5,757	11,400
3,646	4,045	7,690	4,044	4,164	8,208
3,885	4,174	8,059	4,213	4,379	8,593
3,148	3,210	6,358	3,664	3,793	7,457
2,875	2,711	5,586	3,029	3,152	6,181
2,081	2,192	4,273	2,732	2,705	5,437
1,583	1,590	3,173	1,730	1,678	3,407
1,189	1,318	2,507	1,568	1,677	3,245
677	795	1,472	815	907	1,722
513	611	1,124	693	845	1,538
481	546	1,028	692	841	1,533
28	15	43			
62,357	62,736	126,093	73,332	74,158	147,490

Jaya. Timor Timur (annexed in 1976) excluded (1980 population of excluded areas was 4,558,000).

d. Includes Simor Timur, with 1980 population of 555,000.

Sources: 1961: United Nations (1965:142-143; 1971: Indonesia, Biro Pusat Statistik (1972:3); 1976: Indonesia, Biro Pusat Statistik (1977:17); 1980: Indonesia, Biro Pusat Statistik (1983:18).

tion. Relatively little information is available from the 1961 census since final tabulations were completed for only three provinces. (At ages above 25 even the five-year age data for 1961 in Table 1 had to be interpolated from ten-year intervals.) The 1980 data were not available at the time of this writing. Hence we rely here mostly on the 1971 and 1976 data.

General assessment of age distribution quality. Single-year age data for 1971 are given in Table 2 and plotted in Figure 2. The plot shows extreme heaping on multiples of 5 from age 20 onward, as well as less pronounced but clearly spurious responding at intermediate ages. Myers's index of digit preference provides a useful summary measure of the extent of heaping.

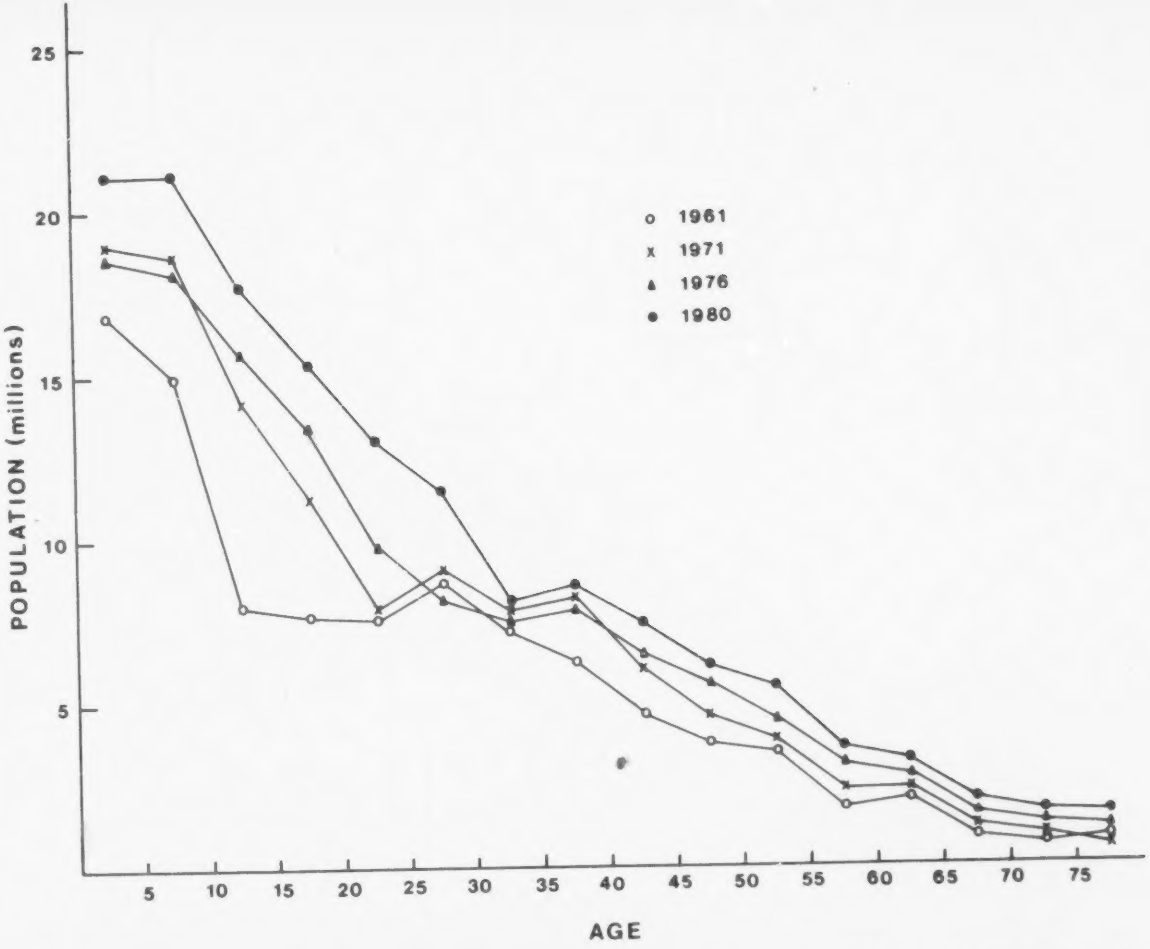

Figure 1. Comparison of Five-Year Age Distributions, 1961, 1971, 1976, and 1980: Indonesia

Source: Table 1.

Table 2. Population by Single Years of Age, 22 Provinces, Census of 24 September 1971 (in 1,000s): Indonesia

	Population at indicated age					
Age x	x, $x + 5$	x	$x + 1$	$x + 2$	$x + 3$	$x + 4$
0	18,100	2,337	3,873	3,882	3,952	4,056
5	17,841	3,685	3,687	3,683	3,611	3,175
10	13,550	3,457	2,379	3,023	2,375	2,316
15	10,782	2,586	2,014	2,123	2,584	1,475
20	7,585	3,006	1,299	1,236	1,052	992
25	8,477	3,550	1,334	1,314	1,337	942
30	7,524	3,951	1,128	1,108	727	610
35	7,624	3,919	1,221	868	979	637
40	5,829	3,409	887	687	533	313
45	4,448	2,488	677	426	524	333
50	3,689	2,259	551	363	290	226
55	2,124	1,153	379	217	223	152
60	2,226	1,500	319	175	143	89
65	1,081	670	149	96	97	69
70	987	696	170	60	38	23
75	745	0	0	0	0	0
Not stated	15	0	0	0	0	0
Total	112,627	0	0	0	0	0

Note: The designation "22 provinces" refers to total Indonesia (26 provinces) less the four provinces of Nusa Tenggara Barat, Nusa Tenggara Timur, Maluku, and Irian Jaya. This subpopulation is considered for purposes of comparison with data from the 1976 Indonesian Intercensal Survey (SUPAS), which included only purposive, nonrepresentative samples in these four provinces.

Source: 1971 Census of Indonesia (24 September), Series E, Nos. 1-26 (26 volumes), Table 01, pages 1-4, in each volume.

It has a theoretical range from 0, for no heaping, to 90, if all ages were reported as ending with the same digit (such as 0); for example, the index had a value of 8 in the 1970 Philippine census, and 33 in the 1971 census of India.

Myers's index for the 1971 Indonesian census was 24 (males, 22; females, 25). There was an appreciable lessening in digit preference in the 1976 survey, with the index falling to 16 (note that in both 1971 and 1976, age heaping was more pronounced in Java than in other major regions of Indonesia).[1] The broad message is that the age distribution data for Indonesia are sub-

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[1] Calculations of Myers's index are from Budi Utomo (1978). See also Alatas (1974).

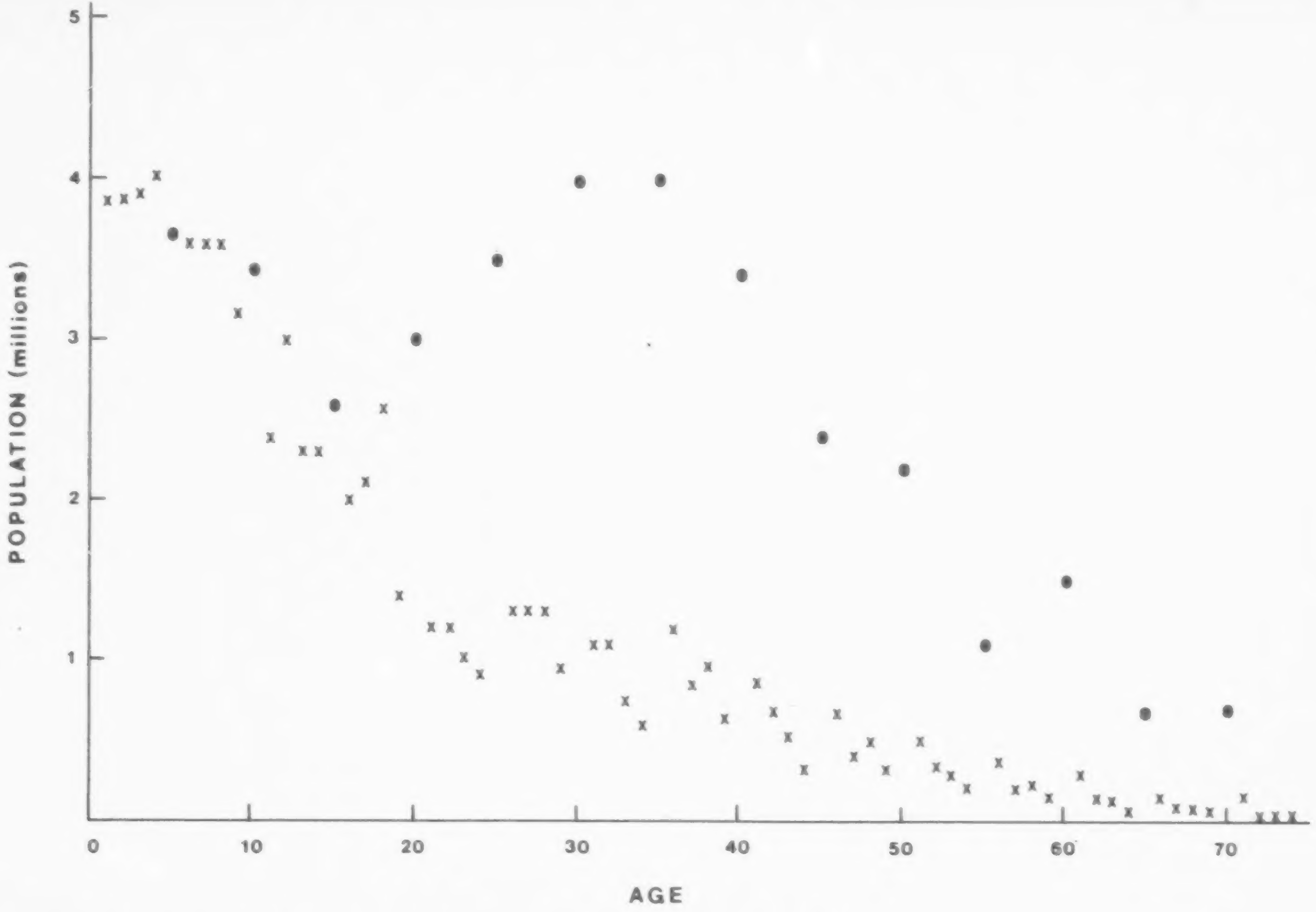

Figure 2. Single-Year Age Distributions, 22 Provinces, 1971: Indonesia

Source: Table 2.

Note: Multiples of 5 plotted as •; other ages plotted as x.

Table 3. Population by Single Years of Age, 22 Provinces, Intercensal Population Survey, Stage 1 (SUPAS I), 1 March 1976 (in 1,000s): Indonesia

	Population at indicated age					
Age x	$x, x + 5$	x	$x + 1$	$x + 2$	$x + 3$	$x + 4$
0	17,809	2,906	3,545	3,679	3,812	3,867
5	18,153	3,858	3,737	3,760	3,580	3,219
10	15,406	3,735	2,775	3,401	2,756	2,739
15	13,095	2,954	2,517	2,644	2,778	2,202
20	9,527	3,069	1,640	1,753	1,423	1,642
25	8,305	3,042	1,326	1,383	1,166	1,387
30	7,426	2,964	965	1,193	957	1,346
35	8,055	3,217	1,213	1,172	1,134	1,319
40	6,356	2,961	874	944	712	865
45	5,345	2,399	755	678	673	841
50	3,999	1,953	536	538	399	543
55	2,771	1,229	410	344	314	474
60	2,364	1,348	289	261	204	262
65	1,357	713	152	153	130	208
70	1,074	655	117	114	74	113
75	456	267	69	25	30	44
80	441	0	0	0	0	0
Not stated	131	0	0	0	0	0
Total	122,050	0	0	0	0	0

Source: Compiled from unpublished tabulations, East-West Population Institute.

ject to considerable reporting errors and should be regarded with more than usual skepticism.

The extent to which the five-year distributions are similarly affected is not clear from Figure 2, nor can it be discerned with any confidence in the plots of the five-year distributions in Figure 1. However, the magnitude and pattern of survivorship ratios calculated from the 1971 and 1976 data in Tables 2 and 3 clearly show the errors to persist in the five-year age group data. An examination of age-specific sex ratios in successive enumerations also indicates persistent errors in the grouped data, showing a distinctive pattern over the age range that has remained more or less the same over the three enumerations during the period 1961–76.[2] Finally, the U.N. age–

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[2] This pattern is characterized particularly by very low sex ratios (around 80–85 males per 100 females) in the age groups 20–24 and 25–29. Regional variation in age-specific sex ratios for 1971 is examined by Alatas (1974).

sex accuracy index gave a value of 53 for the 1971 census, depicting the grouped data as "quite unreliable."[3]

The debate on Indonesia's "hollow" age groups. The 1961 census showed an apparent deficit in the 1941–51 birth cohort (Table 1) that if genuine would have obviously important economic and demographic repercussions in the 1970s as the suddenly much larger cohorts born in the 1950s entered labor force and reproductive ages. This interpretation, made by Keyfitz (1964, 1965), was challenged by van de Walle (1966) and Coale and Demeny (United Nations, 1967) on the grounds that almost identical age patterns found in Tropical Africa could be fairly confidently attributed to age-reporting errors. Their evidence was necessarily circumstantial when applied to Indonesia, but nonetheless striking. For females, the suggestion was that biases introduced when enumerators have to guess respondents' ages lead to the systematic inflation of ages for women just past puberty. For males, the explanation for misstatement of age was less clear, but the deficit to be accounted for was in any case smaller. An obvious phenomenon that would depress recorded early-adult sex ratios, also held to be widespread, is underenumeration of young males.

Debates on the reality of the "hollow" age groups similar to those that have taken place on Indonesia occurred in the African case. Van de Walle cites Sauvy on Madagascar as taking a view analogous to that of Keyfitz, for example. A careful analysis of the Tunisian case, revealing both real and spurious components in the observed deficit age groups, is given by Picouet (1969).

For Indonesia, the 1971 census was expected to settle the issue, but this was prevented by the continuing weakness of the age distribution data. SUPAS provides further evidence, particularly SUPAS II and III, in which unusual efforts were devoted to gathering accurate age information.[4] Plausibly, there is now a large enough body of data to resolve the Indonesian case without recourse to analogies with the experience of other countries.

The existence of a real deficit in the generation of Indonesians born in the 1940s is supported by what is known of economic conditions over 1930–50. In Indonesia, the 1930s was a time of severe depression in the export sector (a major part of the economy) and only partial recovery later in the decade. In Western countries this depression period saw lowered fertility; in the Indonesian case, most analysts have assumed that much of the population was insulated within the subsistence economy, and hence that demographic trends were little affected.[5] However, evidence from the analysis of the 1971 and 1976 age distributions presented later in this chapter suggests that fertility (net of child mortality) may indeed have been falling in the 1930s.

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[3] U.S. Bureau of the Census (1979). The index measures "irregularities" in five-year grouped age distributions, and is calibrated as follows: under 20, reasonably reliable; 20–40, fairly unreliable; over 40, quite unreliable. For Stage I of the 1976 Intercensal Population Survey, the index was 35 (Budi Utomo, 1978).

[4] Such efforts cannot, of course, overcome the basic ignorance by respondents of their own and family members' ages that underlies much of the problem, but a high consistency of responses does reassure against gross enumerator errors. The World Fertility Survey reliability assessment of SUPAS III found 78 percent of respondents reinterviewed reporting their ages consistently within a margin of two years (with consistency positively related to current age and education). See World Fertility Survey (1978).

Whatever the case, things were clearly worse in the 1940s. The collapse of the Dutch colonial regime in 1942, followed by three years of Japanese military occupation, caused severe disruptions. In Java, by 1945

> social and economic conditions had deteriorated rapidly under a combination of natural calamities, chaotic administration, and dislocations caused by the war. The harvest of 1944 was almost completely ruined by drought. The army-imposed economic policy of strict autarchy within each residency created great hardships . . . [food] deficit areas were especially hard hit . . . the military government's extravagant deficit spending drove the rupiah down to one-sixtieth of its value in three and a half years. (Anderson, 1972:11)

A harsh procurement system of enforced rice deliveries at low controlled prices was set up in 1943, and a forced labor program *(romusha)* in the same year. There was a widespread breakdown of health services and pest control programs (Anderson, 1972). Contemporary estimates of birth and death rates available for two residencies in Java (out of 17) show virtually zero natural increase in late 1943 and in 1944 as a consequence of both raised mortality and lowered fertility.[6] Outside Java, where presumably there was

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[5] See Widjojo (1970) and McNicoll and Mamas (1973). The wide variety of attempts to estimate vital rates for the 1930s are summarized in the *Demographic Factbook of Indonesia*, chapters 2 and 3. Birth rate estimates cluster around a figure of 40 per 1,000; death rate estimates are more scattered, in the range of 20–30.

[6] These estimates for Pati and Kedu residencies in Central Java (areas where the prewar vital registration system was comparatively good) are given in a wartime Japanese report on food availability dated January 1945 (*The Problem of Rice*, 1966):

Residence and rate (per 1,000 per year)	1943, 4th qr.	1944		
		1st qr.	2nd qr.	3rd qr.
Kedu birth rate		31.5	32.4	25.8
death rate		29.5	33.9	39.2
Pati birth rate	22.0			
death rate	23.0			

The same source gives the 1939 birth rate of Pati as 38.6 per 1,000. The worst-affected *kabupten* (administrative areas) in these residencies were identified as Wonosobo, Purworedjo, and Kudus, where (annualized) quarterly death rates peaked at 53.7, 42.7, and 45.0 respectively. See Widjojo (1970:chapter 7) for a general discussion of vital rate estimates in the 1940s.

a greater reserve of resources, the demographic consequences of the war were probably less severe, although at least in Sumatra (administered jointly with Malaya) a similar food procurement policy was introduced.

Recovery from occupation economic conditions was slowed by the independence struggle against the reestablished Dutch administration during 1945–49, although the actual fighting was mostly in Java and not uniformly intense over these years. The likelihood would seem to have been a gradual return to prewar demographic patterns, but with marked regional differences in recovery rates. In the early 1950s, the Korean War boom in commodity prices benefited the Indonesian economy along with others in the region.

Careful analysis of the various postwar enumerations should permit the putative demographic effects of this history to be assessed. Widjojo (1961, 1970) made a pioneering effort to do so by constructing a synthetic 1960 age distribution (based on an assumed stable population in 1930 and a specified sequence of subsequent birth and death rates) to be set against the 1961 enumeration. More recently, using the now much-enlarged data base, Speare (1978) undertook a similar but more elaborate study directed specifically at assessing the quality of the 1971 and 1976 age data.

Essentially, Speare projects forward a 1930 stable population, separately by sex, and obtains synthetic distributions for 1961, 1971, and 1976. Assumptions on the pattern and trajectory of fertility and mortality are of course challengeable (but tested to some degree in retrospect).[7] He compares the synthetic and recorded distributions from various angles, such as stability over time of age-specific adjustment factors, plausibility of the reporting errors implied if the synthetic distribution is in fact approximately the correct one, and age-specific sex ratios.

Speare's reconstruction of Indonesian age distribution data (yielding age/sex-specific adjustment factors for the two censuses and SUPAS I and II) is one approach to deriving a consistent data set, reconciling a plausible trajectory of births and deaths with later population enumerations. It is designed to correct jointly for both age-misstatement and underenumeration errors. We would argue, however, that his method throws out too much of the information contained in the recorded age distributions, and that he thereby loses a valuable opportunity to use this information to detect the past sequence of fertility or child mortality. In the discussion that follows, we undertake a new and more conservative adjustment of the age distribution data and draw some inferences from it.

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[7] One obviously weak assumption in this procedure, well-recognized by Speare, is choice of an age pattern of mortality. Speare, in excellent (almost universal) company, uses the Coale–Demeny West model. The synthetic distributions will be securely based only when substantially more information is available on Indonesian mortality.

Table 4. Comparison of Recorded and Corrected Age Distributions, 22 Provinces, Census of 24 September 1971 (in 1,000s): Indonesia

Age group	Number of persons		Difference	Percentage difference
	Recorded	Corrected		
0–4	18,100	18,004	+96	+1
5–9	17,841	17,351	+490	+3
10–14	13,550	14,018	−468	−3
15–19	10,782	10,927	−145	−1
20–24	7,585	8,837	−1,252	−17
25–29	8,477	8,145	+332	+4
30–34	7,524	7,823	−299	−4
35–39	7,624	7,029	+595	+8
40–44	5,829	5,748	+81	+1
45–49	4,448	4,326	+122	+3
50–54	3,689	3,289	+400	+11
55–59	2,124	2,415	−291	−14
60–64	2,226	1,794	+432	+19
65–69	1,081	1,197	−116	−11
70–74	987	982	+5	+1
75+	745	741	+4	+1
Not stated	15	0	+15	+100
Total	112,627	112,626	1	—

Note: See text for explanation.

Source: Recorded numbers from Table 2.

Correction and interpretation of 1971 and 1976 age distributions. The 1971 and 1976 distributions have been corrected with a procedure developed by Feeney (1979) and specifically designed to remove the effects of age heaping of multiples of 5. Table 4 shows the effect on the 1971 distribution of this procedure, which requires the single-year age distribution and therefore cannot be applied to the 1961 data. It will be observed that the procedure transfers substantial numbers of persons between five-year age groups. The plot of the corrected distribution, shown in Figure 3, suggests a deficit of persons in the 20–29 age group. A corresponding plot of the corrected 1976 distribution, not shown, suggests a corresponding deficit in the 25–34 age group, suggesting a deficit of births during the period beginning 30 and ending 20 years prior to the 1971 census, or approximately the years 1942–51.

The corrected distributions are further compared in Table 5, which shows survivorship ratios and age group ratios (ratios of numbers of per-

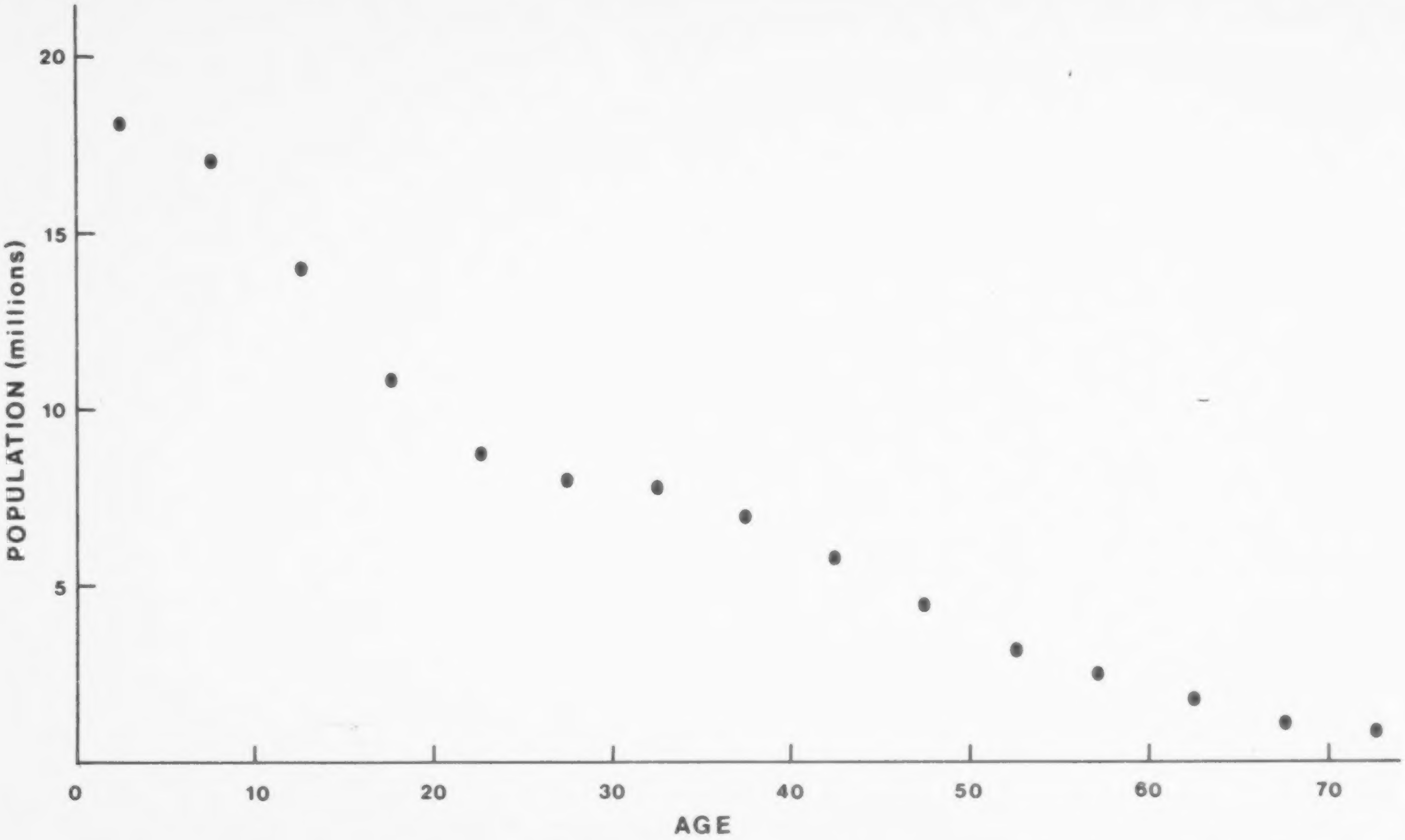

Figure 3. Corrected Five-Year Age Distribution, 22 Provinces, 1971: Indonesia

Source: Table 4.

Table 5. Analysis of Corrected Age Distributions, 22 Provinces, Census of 24 September 1971 and Intercensal Population Survey, Stage 1 (SUPAS I), 1 March 1976 (in 1,000s): Indonesia

Age group	Corrected age distributions 1971	Corrected age distributions 1976	Survivorship ratio	Age group ratio	Time reference
0–4	18,004	17,827	—	0.99	1971
5–9	17,351	17,749	0.986	1.02	1966
10–14	14,018	15,621	0.900	1.11	1961
15–19	10,927	13,036	0.930	1.19	1956
20–24	8,837	10,342	0.946	1.17	1951
25–29	8,145	8,410	0.952	1.03	1946
30–34	7,823	7,820	0.960	1.00	1941
35–39	7,029	7,529	0.962	1.07	1936
40–44	5,748	6,485	0.923	1.13	1931
45–49	4,326	5,100	0.887	1.18	1926
50–54	3,289	3,909	0.904	1.19	1921
55–59	2,415	2,899	0.881	1.20	1916
60–64	1,794	2,128	0.881	1.19	1911
65–69	1,197	1,432	0.798	1.20	1906
70–74	982	886	0.740	0.90	1901
75+	741	887	—	—	—
Total	112,626	122,050	—	1.08	—

Note: Total for 1971 includes 15,000 age-not-stated cases.

Source: 1971 distribution from Table 4. 1976 distribution from unpublished tabulations, East-West Population Institute.

sons in corresponding age groups in the two distributions). The survivorship ratios are very much smoother than those calculated from the original data, which suggests that age-misreporting effects are attenuated (not eliminated) by the correction procedure.

The explanation for the gradual rise of the survivorship ratios with increasing age in the younger ages is unclear. It is virtually certain that it does not represent an unusual mortality pattern, and it seems highly unlikely that it could be an artifact of the correction procedure. It might be accounted for either by the time period separating the two distributions, which falls short of five years by about six months, or by ratios calculated from the recorded distributions. The relatively high ratio for the 0–4/5–9 groups probably reflects high underenumeration of the 0–4, relative to the 5–9 age group. Beyond this first value, the ratios rise, rather than fall as expected, over the next 35 years of age; thereafter, the ratios show a mildly erratic varying completeness of enumeration for different age groups.

The age group ratios in Table 5 are of particular interest. In a stable population, these ratios would be identical. More generally, in a closed population that has experienced constant mortality, these ratios would equal the ratios of births in successive five-year periods prior to the census. For example, if persons aged 50–54 at the end of 1971 and those aged 50–54 at the end of 1976 experience the same mortality risks, and if the corresponding birth cohorts experience no migration, then the ratio of persons aged 50–54 in 1976 and in 1971 equals the ratio of the number of births in 1922–26 and in 1917–21. Age group ratios may thus yield a time series of ratios of births in successive five-year time periods.

The age group ratios in Table 5 reflect several factors in addition to the time series of births, including the fact that the interval between the two studies (and thus the two age distributions) was not exactly five years plus migration, changing mortality, and errors in the corrected age distributions. Nonetheless, the pattern is remarkably suggestive. The ratios for age groups 45–49 through 65–69 are almost identical—around 1.2—suggesting a stable population 45 years prior to the 1971 cenus, with births increasing by a factor of 1.2 every five years. The deviant ratio for the 70–74 group can be dismissed because of the termination of the recorded age distributions with the 75+ age group, which does not permit transferring into the 70–74 group those misreporting their ages to 75. Moving up the column of ratios from the 45–49 age group, the decline from 1.13 to 1.07 to 1.00 suggests declining fertility at a slowly increasing rate during 1932–37, 1938–41, and 1942–47, with a low point reached during the last period. It must, of course, be conceded that the series may represent increasing infant and child mortality in conjunction with declining fertility, and that there is no simple way, and perhaps no way at all, to discern the relative contribution of each factor. Following the low period of 1942–47, and again in some indeterminant combination, fertility evidently rose and infant and child mortality fell, until the ratios of births in successive five-year periods nearly reached their pre-1932 values. The subsequent decline of the ratios naturally raises the question of whether crude birth rates during the 15 years prior to the 1971 census were falling as an echo effect of the decline that occurred a generation earlier.

3 MORTALITY

Because there is no national vital registration system in Indonesia, the available mortality data are primarily indirect in nature.

Sources available for estimating infant and child mortality include the following:

- Information on survival of the children of women in given age groups is available from the 1961 census (three provinces only); the 1971 census; the 1973 Fertility-Mortality (FM) Survey; and the 1976 Intercensal Survey (SUPAS), conducted in three phases.
- The age at death of children in given birth year cohorts is available from the pregnancy history data of the FM Survey and SUPAS III (the Indonesia Fertility Survey, or IFS).
- Respondents participating in SUPAS II were asked the date of birth, sex, and present survival status of their most recent birth.

Methods are available for converting all of these data to conventional measures of infant and child mortality.

Sources available for deriving estimates of adult mortality include the following:

- The three major enumerations—the 1961 and 1971 censuses and the 1976 Intercensal Survey—provide age structures from which adult mortality estimates can be made using intercensal survival techniques; the 1980 census age distribution has just become available for the same purpose.
- Information on deaths by age and sex occurring in a fixed retrospective period was collected in the FM Survey (deaths in a 12-month period) and SUPAS II (deaths in a two-year period). Together with the age distributions from these surveys, these retrospective data can be used to calculate age-specific death rates.
- In SUPAS II, respondents were asked whether their mother was still alive, whether their father was still alive, and whether they were the *anak pertama* (first child) of their mother. These data can be converted to conventional measures of adult mortality.

Finally, an additional source of mortality estimates is the Indonesian Sample Vital Registration Project (SVRP). Conducted in ten *kecamatan* (subdistricts) across Indonesia over a three-year period from 1974 to 1977, this project gathered information on deaths using two independent systems—continuous vital registration and a semi-annual survey. Using estimates of undercount and the recorded age structures, age-specific death rates can be determined directly from these data, although the sample of ten *kecamatan* cannot necessarily be taken as representative of all Indonesia.

Mortality Levels and Trends

Child mortality. All the available data on the survival of children, along with the various methodologies for converting these data to conventional childhood mortality measures, have been extensively examined in the Indonesian case by Hull and Sunaryo (1978). In their study, the most serious problems they encountered were as follows:

- The design of the questions on children ever born and still living has changed from enumeration to enumeration. In particular, the design used in SUPAS II may have led to undercounting of deaths, while that used in the 1971 census led to a high proportion of unstated responses on children ever born and still living.
- Age misstatement (by mothers) was severe and varied among the enumerations. At the same time, analysis of survivorship of children by single years of age of mother indicated that age misstatement errors were related to reported survivorship of children.
- The data on children ever born and still surviving in 1971 and 1976 suffer from substantial reporting errors, as is demonstrated by a comparison of cohorts of women at the two enumerations.

Hull and Sunaryo also point out that care should be taken in specifying the time to which retrospective estimates of child mortality apply.

The estimates of child mortality shown in Table 6 have not been adjusted in response to these problems and should therefore be interpreted with caution. Nevertheless, the table shows a definite downward trend in childhood mortality during the time periods to which the data relate (late 1960s to early 1970s). Hull and Sunaryo note that the observed decline for Indonesia may overstate the real situation because of the possible undercounting of deaths in 1976; the actual decline may have been on the order of 15–20 percent, rather than about 23 percent as shown in the table.

Table 6 also shows that regional factors weigh heavily in the determination of mortality. Particular regions stand out: Yogyakarta, East Java, and Bali have relatively low mortality, while West Java, Sulawesi, and the eastern islands ("other islands") have high mortality. Hull and Sunaryo have suggested that these differences may be traceable to the low level of malaria in Java, the use of low-nutrition staples in high-mortality areas, and the more widespread provision of health services in Java and Bali. Although regional trends in mortality may have a low degree of reliability, Table 6 suggests that mortality declines were most rapid in Jakarta and Sumatra, and slowest in Kalimantan, Yogyakarta, and East Java.

Infant mortality. Estimates of infant mortality can be obtained from the childhood mortality estimates given in Table 6 if the pattern of mortality

Table 6. Estimates of ${}_2q_0$ and ${}_3q_0$ Based on the 1971 Census Data and the 1976 Intercensal Survey, Trussell Method, and Estimates of ${}_5q_0$ Derived from ${}_2q_0$, Both Sexes, by Region: Indonesia

	${}_2q_0$		${}_3q_0$		${}_5q_0$	
Region	1971 census (mid-1969)	1976 SUPAS (late 1973)	1971 census (mid-1967)	1976 SUPAS (late 1971)	1971 census (mid-1968)	1976 SUPAS (late 1972)
Indonesia	.179	.137	.194	.150	.213	.163
Java	.176	.139	.191	.153	.209	.166
Jakarta	.154	.110	.173	.108	.186	.123
West Java	.208	.171	.226	.190	.248	.206
Central Java	.174	.125	.193	.146	.209	.153
Yogyakarta	.117	.108	.132	.096	.132	.116
East Java	.146	.125	.161	.135	.175	.147
Outside Java	.184	.133	.199	.144	.217	.157
Sumatra	.179	.117	.194	.126	.213	.129
Kalimantan	.179	.180	.196	.185	.214	.208
Sulawesi	.187	.142	.205	.155	.224	.169
Bali	.151	.123	.180	.133	.188	.145
Other islands	.231	—	.243	—	.271	—

Notes: ${}_2q_0$ and ${}_3q_0$ are based on the Trussell West model, and the derived values of ${}_5q_0$ assume West model life tables. The data in parentheses refer to the time to which the estimate refers. These estimates of *time* prior to the data collection date are derived by use of Trussell's t*.

Table 7. Infant Mortality Rates, by Region, Derived from $_5q_0$ Estimates Shown in Table 6, Assuming West Model Life Tables: Indonesia

Region	1971 census (mid-1968)	1976 SUPAS (late 1972)
Indonesia	.143	.112
Java	.140	.114
Jakarta	.126	.087
West Java	.166	.139
Central Java	.140	.106
Yogyakarta	.093	.082
East Java	.119	.102
Outside Java	.146	.108
Sumatra	.143	.091
Kalimantan	.144	.140
Sulawesi	.150	.116
Bali	.127	.101
Other islands	.181	—

in the first five years of life is known. The Princeton set of regional model life tables provides a wide range of mortality patterns under age 5; however, to use these tables, one must have some knowledge of which of the four families of tables is most likely to prevail in the society under study. Hull and Sunaryo have shown that the infant mortality rate derived through model life tables from the estimate of $_2q_a$ in Indonesia from the 1971 census data varies by 20 points per 1,000, depending on the model used.

A useful way of distinguishing among the childhood mortality patterns in the four families of regional model life tables is to examine the level of the $_1q_0/_4q_1$ against the implied level of 15. This procedure can be applied to data obtained from a small-scale reliable study, and the observed pattern then assumed to apply to the whole country. Unfortunately, the Indonesian data situation does not permit even this simple procedure to be applied with confidence. At best, the life tables produced by Gardiner (1978) from the SVRP show a pattern of mortality under age 5 very similar to that of the West tables. Gardiner warns that these data require further investigation because of problems involved in estimating the denominators at these ages. Nevertheless, given that the pattern of childhood mortality in the West tables falls between the patterns in the North and East tables, and that the small amount of data available for Indonesia also suggests use of the West tables, the infant mortality rates in Table 7 have been derived from the $_5q_0$ values in Table 6 on the assumption that the West pattern of childhood mor-

Table 8. Proportions of Births (per 1,000) Dying under Age 5, 1955–74: Indonesia

Year of birth	Infant mortality	Proportion dying, 1–4	Proportion dying up to 5
1955	118	120	224
1956	153	100	237
1957	118	113	218
1958	120	98	206
1959	112	91	193
1960	117	86	207
1961	108	91	188
1962	150	93	229
1963	119	92	199
1964	112	111	211
1965	115	88	193
1966	112	90	192
1967	103	59	156
1968	96	65	155
1969	106	68	162
1970	81	67	148
1971	84	63	141
1972	92	68	153
1973	105	—	—
1974	96	—	—

Source: Supraptilah (1982).

tality applies in all Indonesia. In interpreting these data, it must be remembered that the error involved merely in selecting a family of model life tables could be on the order of plus or minus 10 points per 1,000 around the values shown in the table.

From the IFS maternity histories (which refer to a sample of women in Java and Bali), mortality has been calculated for calendar years of birth (see Table 8). As one goes further back into the past, greater and greater selection occurs because births to women at higher ages are progressively excluded by the age 50 upper limit for women at the time of the survey; however, any bias should be small for the 15 years before. From Table 7 it can be noted that infant mortality in Java plus Bali was little different from that in Indonesia as a whole. The rates in Table 8 can then be taken as comparable with the previous estimates.

The survival of birth cohorts from 1967 onward shows little if any systematic trend, with an average infant mortality of 95 per 1,000 births and ${}_5q_0$ of 153 per 1,000 (${}_5q_0$ is a measure of the numbers of children dying by exact age 5). The corresponding measures for around 1972 shown previously are 112 and 163 per 1,000, although these latter measures include some contribution from children born before 1967. Given the different coverage and techniques, as well as the vulnerability of infant mortality rates to exact specification of the 12-month period, the agreement is reasonable. The sharp change in rates between the 1966 and the 1967 birth cohorts makes it more difficult to equate the different estimates. The IFS data give averages of 119 per 1,000 for infant mortality and 202 per 1,000 for ${}_5q_0$ over the 1961–66 cohorts compared with the mid-1968 estimates from Table 6 and 7 of 143 and 213. It appears that the discrepancy is in the pattern of childhood mortality. The age pattern of mortality assumed in the Coale–Demeny West model life table may be appropriate for the period before 1964. The IFS measures yield a fall in infant mortality of 20 percent and in mortality up to age 5 of 25 percent between the early 1960s and the late 1960s to early 1970s.

As noted above, the reliability of the rates becomes increasingly uncertain for earlier birth cohorts. Nevertheless, it is worth noting that indications are of little change back to the mid-1950s.

The 1973 FM Survey also produced estimates of mortality up to age 5 of birth cohorts. An exact comparison with the IFS results is not possible because the aim of the FM Survey was to establish basic measures separately for rural and urban areas within regions; in addition, both Jakarta and urban areas of Bali were excluded. However, the FM estimates can be weighted to be roughly equivalent to the IFS values, as follows:

	Proportion dying by age 5	
Birth cohort	FM Survey	IFS
1955–59	197	216
1960–64	167	207
1965–67	146	180

The IFS rates are somewhat higher than the FM measures, although the trends are similar. Because of the approximations involved in the comparison, too much weight should not be placed on the discrepancies; however, it seems safer to put more weight on the IFS measures in constructing Indonesian life tables.

It should also be noted that the estimates given in Table 7 refer to both sexes combined. In this regard, the life tables estimated from the Sample Vital Registration Project (Gardiner, 1978) indicate that sex differences in mortality in Indonesia, for both children and adults, were similar to those in the Princeton regional model life tables.

Based on the survival of children born in 1975 as reported in SUPAS II (March 1976), Hull (1978) has estimated that the infant mortality rate in Indonesia was about 114 per 1,000 births in 1975, an estimate in good agreement with the figure of 112 per 1,000 shown in Table 7 for late 1972. In summary, despite the uncertainties, it can be said with fair confidence that mortality up to age 5 in Indonesia was around 160 per 1,000 in the early to mid-1970s and 210 per 1,000 several to ten years earlier. The corresponding levels of infant mortality are less certain, but may be put at 105 per 1,000 and 130 per 1,000 for those time periods.

Adult mortality. The above relatively firm conclusions about the levels and trends of infant and child mortality cannot be matched by conclusions about adult mortality. Until recently, in the absence of data on adult mortality, researchers have estimated adult mortality based on one of the following: the figures implied by an estimate of childhood mortality and a set of model life tables; or the figures in a model life table which, when applied to the age distribution, yield the observed change in population between two enumerations. However, there is little basis for the assumption that the pattern of adult mortality of one of the standard families of model life tables applies to countries such as Indonesia. More recently, data have become available that permit research into the specific pattern of adult mortality applying in Indonesia.

Heligman (1974) and Kabir (1978) have applied intercensal survival techniques to the 1961 and 1971 Indonesian censuses. Both studies revealed a low childhood/high adult mortality pattern relative to the Brass General Standard mortality pattern (see Figure 4). Using similar methods, McDonald (1978b) has examined intercensal survival between 1961 and 1971 and between 1971 and 1976. While his results for both periods agreed on average with the patterns observed by Heligman and Kabir, he found that the survival patterns for individual age groups and for the two sexes differed considerably between the two enumeration periods. He concluded (p. 16) that the inconsistencies in age distributions between enumerations were so great that intercensal survival techniques applied to Indonesian data "add little to knowledge of the levels and patterns of adult mortality in Indonesia."

Life tables based on retrospective questioning about deaths occurring in the household in the 12 months prior to the 1973 FM Survey have been constructed by Sinquefield and Kartoyo (1977). The pattern they obtained, in reverse of those of Heligman and Kabir, shows relatively high childhood mortality, after which the mortality rates became increasingly lower with age relative to the Brass General Standard mortality pattern (see Figure 4). McDonald (1978a) has claimed that the pattern observed by Sinquefield and

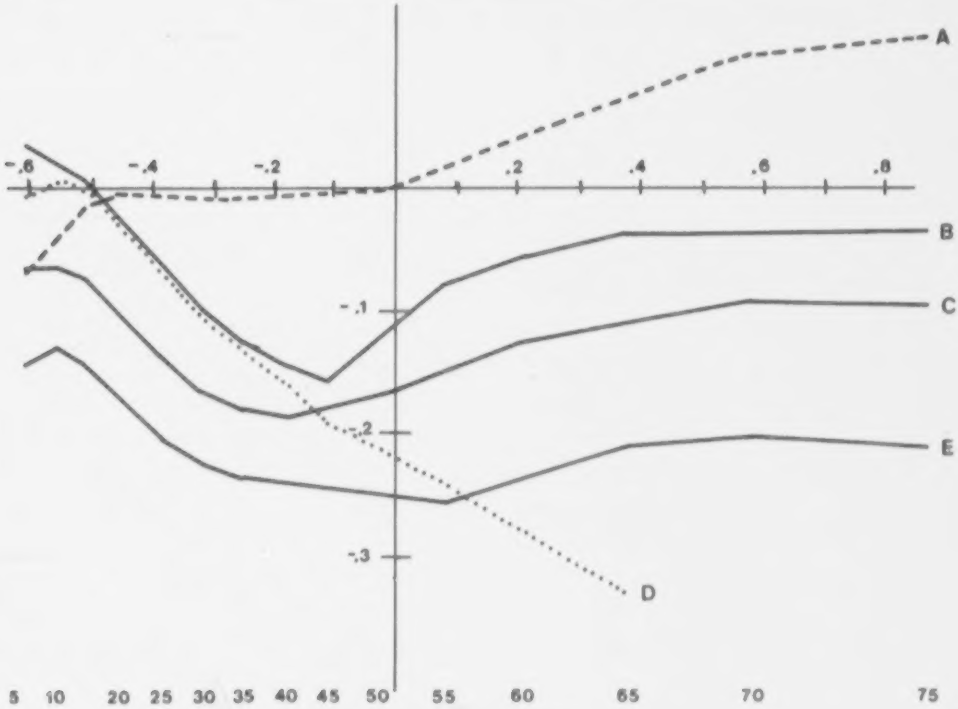

Figure 4. $D_x = \text{logit}\,(l-l_x) - \text{logit}\,(l-l_{xs})$, Various Life Tables: Indonesia

Sources: A: Heligman (1974), females, Indonesia, 1971.
B: McDonald (1978b), females, Indonesia, 1964.
C: Gardiner (1978), males, SVRP areas, 1974-77.
D: Sinquefield and Kartoyo (1977), males, rural Indonesia, 1965-70.
E: Gardiner (1978), females, SVRP areas, 1974-77.

Kartoyo is very strongly influenced by age differences in the level of reporting of deaths, specifically, that deaths after age 45 are likely to have been heavily and increasingly undercounted in the FM Survey. The information obtained from SUPAS II on deaths in the household in the two years prior to the enumeration have been examined by McDonald (1978b), who concludes that the data are of low quality because the understatement appears to be on the order of 50 percent.

Growth-balance applications. Despite the weaknesses of the SUPAS II mortality data, the paucity of information makes a closer examination of these data worthwhile. This can be done through the various versions of the growth-balance procedure. Although a number of alternatives have been tried, errors in the observations make the introduction of sophisticated adjustments unrewarding; therefore, only the results of the most simple approach are presented here.

From deaths by age in a year, the crude death rate for the section of the population aged x and over, d_x, can be calculated. The crude birth rate for this section, that is, the rate of entry per annum, b_x, is found easily from the average numbers per year around age x divided by the population over this age. If the growth rate of all sections is the same value, r, and deaths are in error by a constant proportion at each age, then $b_x = r + fd_x$, where f is the correction factor for the reported deaths. Since at older ages b_x and d_x are large relative to r, modest variations in the growth over time are not important. The method is extremely powerful for demonstrating the order of f, although age errors for both the living and dying, as well as differential reporting by age, can make accurate estimation of the correction factor difficult.

This method was applied to the SUPAS II reports of deaths in both 1975 and 1974. Although the correction factors were considerably larger for 1974, the characteristics of the checks and the final mortality estimates were very similar. Nor did the use of smoothed rather than observed age distributions of the living and dying appreciably alter the findings. Therefore, the discussion here will be only of the unsmoothed measures for 1975.

Figure 5 is of b_x against d_x separately for males and females. Although the relation is erratic, it is clear that the deaths would have to be roughly doubled to give consistency with the relation $b_x - d_x = r$. The adjustment required for females is somewhat larger than that for males. It is not easy to determine the best f because of the curvature of the points in the graph; this type of curvature, often found, is almost certainly due to systematic age errors. Although the best-fitting line does not necessarily have a value of r equal to the current growth rate, the latter is a useful guide. Experience with many data sets suggests that the line should go through the cluster of points at the early ages rather below the center, and that the values at ages in the 1950s and early 1960s are the most reliable indicators at the later years. Based on these principles, the alternative linear relations in the figure were derived. The lines have an r of 24 per 1,000. The central line provides a reasonable upper estimate for the male measures and lower estimate for the female measures; the upper and lower lines define the other boundaries for females and males, respectively. The conclusion is that f lies from 1.6 to 1.8 for males and from 1.8 to 2.1 for females. Table 9 gives the b_x and d_x measures calculated from the observations. The partial death rates adjusted by the estimated f corrections are shown in Table 12.

Directly-recorded deaths during the mid-1970s were also obtained in the SVRP. The data were collected over three years in ten sample areas by the Central Bureau of Statistics. The dual recording system was used to obtain estimates of underreporting. For each area, the deaths by age group from the survey component of the system were corrected by the estimated

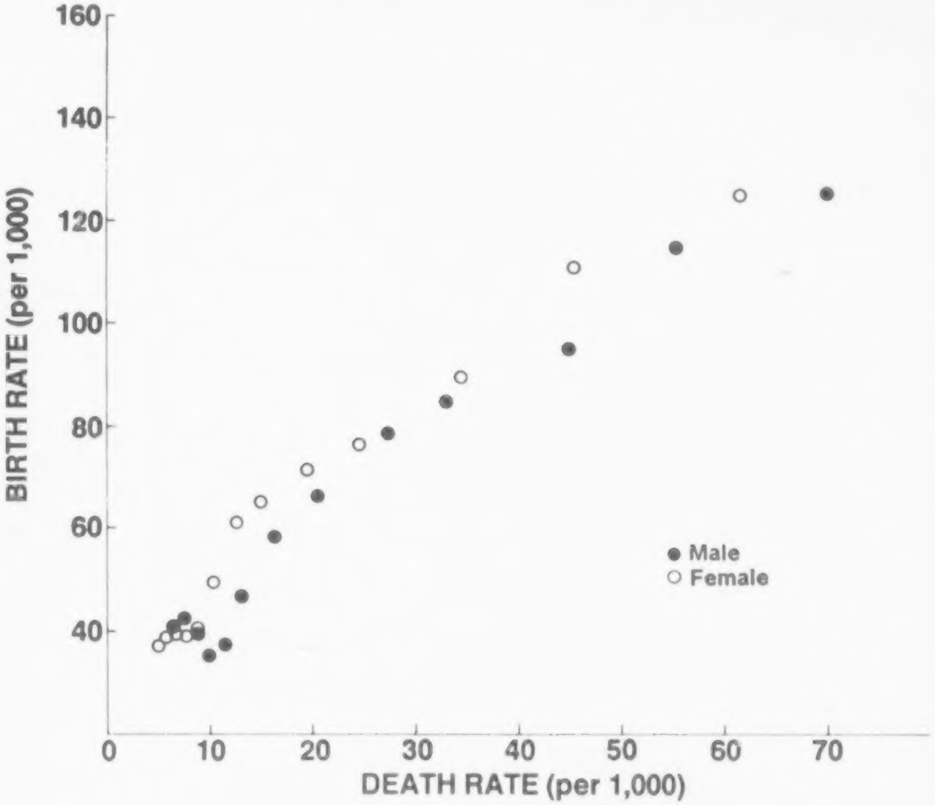

Figure 5. Growth-Balance Estimates, SUPAS II Death Rates: Indonesia

underreporting adjustment over all ages. The corrected deaths were related to the person-years of exposure over the three years to give the age-specific mortality rates by sex and age. Summation over the areas gave combined measures. Although these rates cannot be claimed as representative of the whole country, they may plausibly be roughly appropriate, in particular in pattern, if not in level. The growth-balance procedure has therefore been applied to the combination of the SVRP-specific death rates and the 1976 SUPAS II age distribution.

Figure 6 demonstrates that both the pattern and the level of mortality from the SVRP are consistent with the 1976 partial birth rates, b_x. The points are more regular than those for the SUPAS II household deaths, although some curvature from ages 35 to 50 is still present. However, the values beyond 50 are satisfactorily linear. There are no grounds for contrasting the accuracy of recording for males and females. A line with an r of 24 per 1,000 and a slope of 1 (which accepts the death rates as correct) is a fair represen-

Table 9. Partial Birth and Death Rates from SUPAS II: Indonesia

Age	Males				Females			
	Population over[a] (1,000s)	Deaths over[a] (100s)	Birth rate (per 1,000)	Death rate (per 1,000)	Population over[a] (1,000s)	Deaths over[a] (100s)	Birth rate (per 1,000)	Death rate (per 1,000)
5	51,224	2,960	—	5.8	52,886	2,495	—	4.7
10	41,973	2,649	41.1	6.3	43,983	2,186	37.1	5.0
15	33,969	2,553	42.4	7.5	36,581	2,138	38.5	5.8
20	27,571	2,436	39.3	8.8	29,885	2,036	39.5	6.8
25	23,135	2,275	35.6	9.8	24,793	1,888	38.7	7.6
30	19,333	2,178	37.5	11.3	20,290	1,775	41.8	8.8
35	15,882	2,050	46.3	12.9	16,316	1,661	49.8	10.2
40	11,979	1,925	58.6	16.1	12,164	1,534	60.8	12.6
45	8,865	1,821	66.2	20.5	8,922	1,341	65.3	15.0
50	6,106	1,672	78.5	27.4	6,336	1,228	71.9	19.4
55	4,075	1,347	84.5	33.0	4,368	1,073	76.1	24.6
60	2,661	1,191	95.4	44.8	2,911	999	89.2	34.3
65	1,536	849	114.1	55.3	1,772	803	111.1	45.3
70	908	635	124.4	70.0	1,043	643	124.8	61.6

a. The terms "population over" and "deaths over" refer to the number of persons or deaths over the age indicated. For example, row 1 for males shows that the population over age 5 was 51,224,000, and that there were 2,960,000 deaths to persons aged 5 and over.

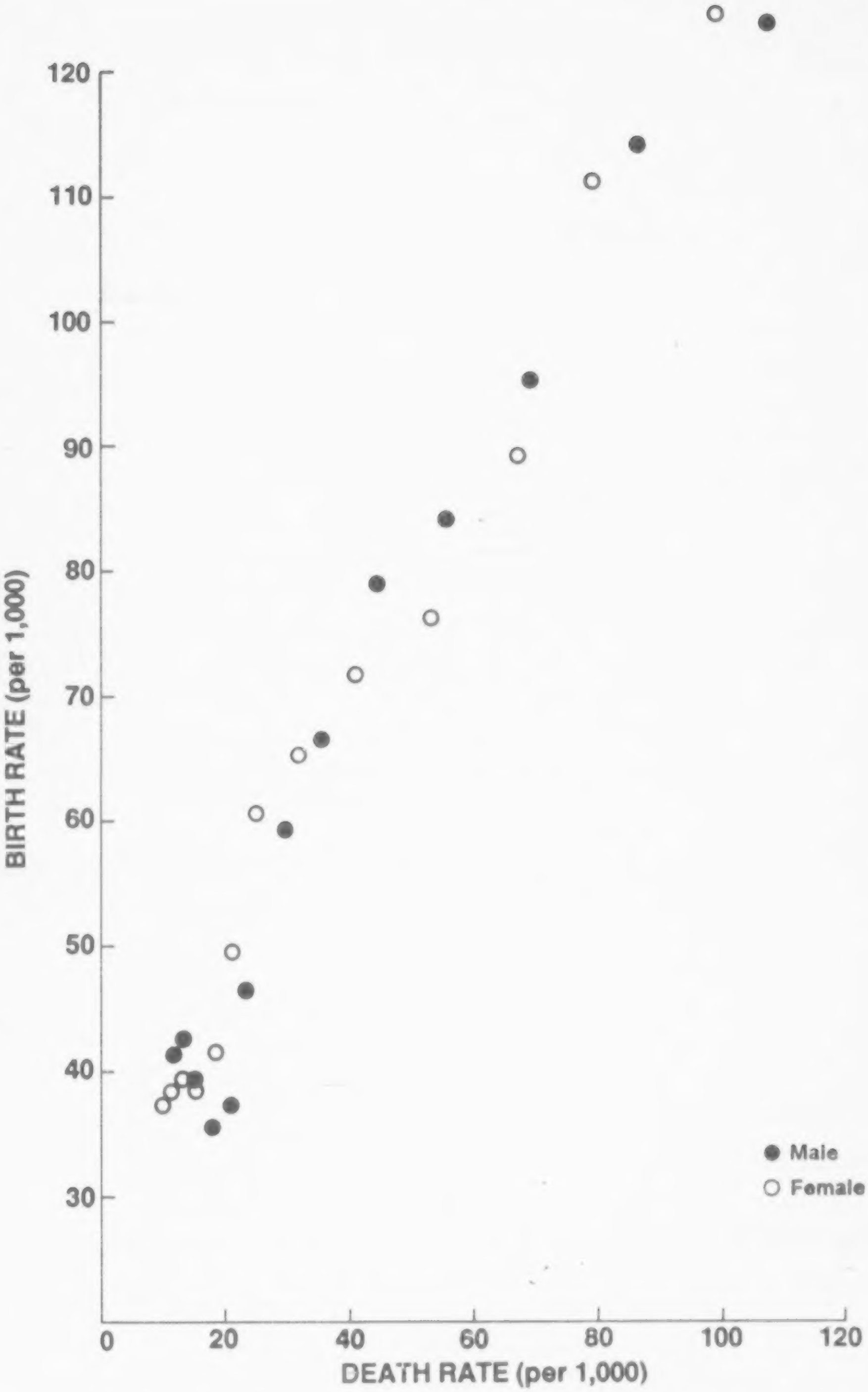

Figure 6. Growth-Balance Estimates from SVRP Death Rates: Indonesia

tation of the relation between b_x and d_x. However, this still leaves most of the points after the early ages on the upper side of the line. A line with a higher slope of 1.08 has been chosen as the best description. The partial birth and death rate measures are given in Table 10 and the adjusted values of the death rates in Table 12.

The 1971–80 Intercensal Period. A wide range of techniques can be used to estimate mortality from the survivorship of persons alive in 1971 to 1980. The simple procedure applied here is chosen for ease of comparison with the procedures adopted above. Separately for males and females, rates for persons aged 5½, 10½, 15½, etc., years and over were derived from the 1971 census single-year age distributions. Similarly for 1980, the rates for persons over ages 14½, 19½, 24½, etc., years were found. Subtraction of the numbers over 14½ years in 1980 from those over 5½ years in 1971, and so on, gave deaths in the nine-year interval. The corresponding populations at risk were taken as the averages of those over 5½ years in 1971 and 14½ years in 1980, and similarly at higher ages. Division of the deaths per year by the average populations then gives, approximately, partial death rates at over 10 years, over 15 years, and so on, for the intercensal interval, with results as shown in Table 11.

Comparison with Table 12 reveals huge discrepancies between the intercensal patterns of mortality by age and those calculated from the deaths. At the lower ages, the partial death rates are fairly similar, but at later ages, the intercensal measures are only about half of the others. Explanations based on changing census coverage or migration are not sensible here since the magnitudes required to achieve coherence are impossibly large. The discrepancy can be reduced a little by local smoothing of the age distribution to correct for digit preference, but not enough to be significant. It has been demonstrated (Brass and Swamy, 1980) that biases of the type found probably arise from an age error pattern in which overstatement increases with age. However, there was also a suspiciously large increase in the proportions at late ages in Indonesia between 1971 and 1980. It is likely, then, that the extreme distortion here came from the specific nature of the changing age errors. Whatever the reason, it is clear that the apparent intercensal patterns must be discounted; in fact, they suggest far lower old-age mortality than any of the Coale–Demeny regional models.

Evidence on the level and pattern of adult mortality is summarized in the form of partial death rates in Table 12. The concordance between the SUPAS II and SVRP estimates is encouraging in view of the data limitations. Up to middle adult ages, the SVRP unadjusted rates are rather close to the SUPAS II rates with the higher correction; thereafter (from about age 50 for males and 60 for females) the SVRP rates fall below the SUPAS rates. As noted above, although the pattern of the intercensal estimates is

Table 10. Partial Death Rates with SVRP Age-Specific Rates and SUPAS II Population Age Distribution: Indonesia

Age group	Males			Females		
	Age-specific rate (per 1,000)	Deaths over lower age (100s)	Death rate (per 1,000)	Age-specific rate (per 1,000)	Deaths over lower age (100s)	Death rate (per 1,000)
5–9	4.68	5,047	9.9	4.92	4,832	9.1
10–14	2.35	4,614	11.0	2.08	4,394	10.0
15–19	3.02	4,426	13.0	2.56	4,240	11.6
20–24	3.47	4,232	15.4	3.62	4,068	13.6
25–29	4.79	4,079	17.6	4.34	3,884	15.7
30–34	5.30	3,896	20.2	6.32	3,689	18.2
35–39	6.96	3,713	23.4	6.81	3,438	21.1
40–44	11.96	3,442	28.7	9.30	3,155	25.9
45–49	13.82	3,069	34.6	8.66	2,853	32.0
50–54	22.64	2,688	44.0	16.69	2,629	41.5
55–59	28.79	2,228	54.7	25.30	2,301	52.7
60–64	44.61	1,821	68.4	43.89	1,958	67.2
65–69	55.49	1,319	85.9	51.72	1,414	79.8
70–74	89.11	971	106.9	80.47	1,037	99.4
75+	128.85	524	128.9	122.45	576	122.4

Note: Partial birth rates are as in Table 9.

Table 11. Partial Death Rates Calculated from Survivorship from 1971 to the 1980 Census: Indonesia

	Males			Females		
Age	Average population (1,000s)	Deaths in intervals (100s)	Death rate (per 1,000)	Average population (1,000s)	Deaths in intervals (100s)	Death rate (per 1,000)
10	45,296	4,866	11.9	47,538	4,092	9.6
15	36,620	3,287	10.0	39,106	2,934	8.3
20	30,039	2,180	8.1	32,160	3,291	11.4
25	24,408	2,255	10.3	26,239	3,169	13.4
30	20,543	2,693	14.6	21,814	2,792	14.2
35	16,436	2,664	18.0	17,125	2,161	14.0
40	12,697	2,613	22.9	13,153	1,879	15.9
45	9,294	1,792	21.4	9,609	1,160	13.4
50	6,505	1,636	27.9	6,844	1,184	19.2
55	4,467	1,073	26.7	4,857	724	16.6
60	2,843	1,029	40.2	3,166	828	29.1
65	1,822	709	43.2	2,077	546	29.2
70	1,015	528	57.8	1,121	441	43.7

Table 12. Partial Death Rates Estimated by Different Methods, Mid-1970s: Indonesia

	Males					Females				
	SUPAS II, sample area mortality		SVRP, sample area mortality			SUPAS II, sample area mortality		SVRP, sample area mortality		
Age	Low	High	Low	High	Inter-censal	Low	High	Low	High	Inter-censal
5	9.2	10.4	9.9	10.6	—	8.5	9.9	9.2	9.9	—
10	10.1	11.4	11.0	11.9	11.9	8.9	10.4	10.0	10.8	9.6
15	12.0	13.5	13.0	14.1	10.0	10.5	12.3	11.6	12.5	8.3
20	14.1	15.9	18.4	16.6	8.1	12.3	14.3	13.6	14.7	11.4
25	15.7	17.7	17.6	19.0	10.3	13.7	16.0	15.7	16.9	13.4
30	18.0	20.3	20.2	21.8	14.6	15.8	18.4	18.2	19.6	14.2
35	20.7	23.2	23.4	25.3	18.0	18.3	21.4	21.1	22.8	14.0
40	25.7	28.9	28.7	31.0	22.9	22.7	26.5	25.9	28.0	15.9
45	32.9	37.0	34.6	37.4	21.4	27.1	31.6	32.0	34.5	13.4
50	43.8	49.3	44.0	47.5	27.9	34.9	40.7	41.5	44.8	19.2
55	52.9	59.5	54.7	59.1	26.7	44.2	51.6	52.7	56.9	16.6
60	71.6	80.6	68.4	73.9	40.2	61.8	72.1	67.3	72.6	29.1
65	88.5	99.5	85.9	92.5	43.3	81.6	95.2	79.8	86.2	29.2
70	111.9	125.9	106.9	115.5	57.8	110.9	129.4	99.4	107.4	43.7

unacceptable, the evidence on the overall level of mortality cannot be ignored. The difficulty here is that the measures at lower ages are also sensitive to age errors. For example, the male intercensal partial death rate goes down sharply from ages 10+ to 20+, an impossibility with reliable data. Examination of the age corrections discussed briefly in Chapter 2 suggests that for males and females together, the errors in numbers in the 5–9 and 10–14 age groups roughly cancel; thus survivorship from 5+ to 15+ will have a smaller bias than that for the next few age points. The partial death rate at over 10 years may then be the most reliable. The age errors indicate that the intercensal estimate for males will be too high and for females too low. Adjustments of this kind would bring the intercensal partial death rates for the 10+ age group into good agreement with the SVRP unadjusted measures. However, too heavy a reliance on the intercensal estimates is unwise since they could easily be distorted by changes in age errors between 1971 and 1980, as well as by quite small coverage differences. There is satisfactory evidence that the SVRP rates are fairly close to the truth. The growth-balance technique applied above gave a reasonably linear relationship between b_x and d_x, whose slope was estimated at around 1.08. On balance, it was decided to accept this result and, therefore, the correct SVRP rates, as representing Indonesian adult mortality in the mid-1970s.

Information for the estimation of adult mortality at earlier dates is scanty. Parental survival data from SUPAS II have been examined by McDonald (1978b). He concludes that the best estimates of mortality are likely to be provided by measures of the survival of mothers of eldest children, as opposed to the survival of mothers or fathers of all children, because the data for all children yield very low mortality levels (Table 13). McDonald's methodology assumes that the data refer to first-born children of the mother, but in many cases the data may refer to the eldest surviving child. In addition, his calculations assume that first births occurred over a short age range of mother, and that it is therefore possible to disregard the impact of the age structure of mothers. Hill et al. (1976) have developed a methodology for analyzing parental survival data for eldest children; this methodology takes account of the impact of the age distribution of mothers by assuming that distribution to be stable. The crucial respondents in the application of these methodologies to data from SUPAS II would have been born in the 1930s and 1940s, and their own age structure is rather flat. This indicates that the age distribution of their mothers may likewise have been somewhat flat; this may be due to the severe impact of the 1918 influenza epidemic in Indonesia, or to lower fertility in the 1940s than in the 1930s resulting from societal disruptions in the 1940s. In either case, the model assumptions behind the Hill et al. methodology would be challenged, although probably not seriously.

Table 13. Proportions of Mothers and Fathers Surviving, by Age of Respondent, 1976 Intercensal Survey: Indonesia

Age group	Mother still living	Father still living	Mother still living (eldest child)
0–4	.9926	.9799	.9924
5–9	.9763	.9449	.9812
10–14	.9597	.8974	.9650
15–19	.9251	.8316	.9373
20–24	.8768	.7558	.9043
25–29	.8032	.6285	.8309
30–34	.6802	.4899	.7251
35–39	.5725	.3580	.6319
40–44	.4401	.2469	.5077
45–49	.3468	.1732	.3987
50–54	.2120	.0933	.2689
55–59	.1358	.0641	.1830

Note: SUPAS II did not cover some areas of Indonesia that at the time of the 1971 census accounted for 3.24 percent of the total population.

The results obtained by applying the Hill et al. methodology show a pattern of mortality similar to that obtained by McDonald, although in general the overall level of mortality was higher in the McDonald estimates, particularly below aged 50. If the method is applied only to respondents aged 20–50, their mothers could have died over a 50-year period preceding the enumeration. Using the distribution of deaths by age in a stable population, McDonald has posited that his life table applies on average to about 12 years before the enumeration, that is, 1964; however, the range of time to which the data refer is very broad.

Brass and Bamgboye (1981) have developed formulae for establishing the time to which estimates of adult mortality from orphanhood refer on the assumption of regularity of trends. A later simplified version establishes the time of reference as follows:

$$T = \frac{N}{6}\left[3 - \frac{\dfrac{M}{S(1-80)}}{\dfrac{M}{(r-80)} - \dfrac{N}{80}}\right],$$

where N is the mid-age of the responding age group, M the mean age at which the mothers or fathers bear the children, and S the proportion of mothers or fathers surviving. Values calculated from this expression are given in Table 14, which also shows a comparison of the orphanhood survivorship estimates with the corresponding measures from the favored, adjusted SVRP results.

The orphanhood and SVRP proportions of males surviving from age 32½ years are in very reasonable agreement at later ages (over 60 years). The discrepancies are greater for females, with the orphanhood-derived mortality lower (Table 15). However, the orphanhood measures are set back some 13 or 14 years before the SVRP measures at these ages. The female orphanhood estimates for earlier ages may be biased downward by the "adoption" effect (the tendency for foster mothers to be taken as the natural mother), but this has not commonly been the experience for fathers. It seems clear that deaths of parents are too low. Whether this was due to response errors or selection biases is impossible to specify. In any case, the data are inadequate for estimating trends in adult mortality.

The McDonald estimates from reports of survivorship of mothers of eldest children are more consistent with the higher mortality to be expected some 12 to 14 years before the 1976 survey. However, there have been serious practical difficulties with this method in interpreting "eldest," as indicated by the difference between the McDonald and Hill calculations. The evidence does not seem strong enough to justify any conclusions about the level of adult mortality in the mid-1960s. Although falls in childhood and adult mortality usually occur together, the relations between the two trends have been quite variable in different populations and periods.

Despite this assessment, the orphanhood results are roughly of the right orders. Regional differences in adult mortality levels based on the survivorship of mothers of eldest children are set out in Table 16 in terms of the expectation of life at age 20. As was the case with childhood mortality, the levels are low in Yogyakarta, East Java, and Bali, but high in Sulawesi and the eastern islands. Overall, however, the regional differences are not large.

Life Tables

Selected parameters from life tables based on parental survival data and the SVRP are shown in Table 17. In the SVRP tables, mortality after age 5 is based on the age-specific death rates already discussed, but with some graduation. The smoothing is light and local, however, and does not alter the general mortality level. In accordance with the discussion above, the SVRP pattern was accepted, but with the level of mortality raised by 8 percent in each age group for both males and females; the smoothing was retained. These schedules of mortality beyond age 5 were combined with the estimates of proportions of children dying at ages 1 year and 5 years already derived. Since these latter estimates were for the two sexes combined, it was necessary to incorporate a rather arbitrary differential between males

Table 14. Measures of Mortality Derived from Information on the Survival of Parents: Indonesia

	Survival of mother				Survival of father, all children
	All children		Eldest children		
	Brass–Hill method	Hill–Trussell method	McDonald (1978b)	Hill et al.[a]	Brass–Hill method
n	l_n/l_{25}	l_n[a]	l_n/l_{20}	l_n/l_{25}	$l_n/l_{32.5}$
35	.9701	—	.9490	.9715	—
40	.9501	—	.9197	.9470	—
45	.9163	.6855	.8733	.9138	.9152
50	.8685	.6544	.7895	.8473	.8586
55	.7941	.6017	.6886	.7429	.7848
60	.6749	.5058	.5856	.6468	.6676
65	.5606	.4248	.4674	.5272	.5079
70	.4252	.3184	.3521	.4227	.3474
75	.3000	.2432	.2380	.3045	.2009
80	.1670	—		.2157	.1229

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a. Kenneth Hill, private communication. Note that these estimates also take a value of M_1, the mean age of mothers at the time of their first birth, to be about one year younger than that used in the McDonald estimates. The difference is due to the fact that the McDonald estimate of M_1 assumes a flat age distribution while the Hill estimate assumes a stable age distribution. This partially accounts for the lower mortality in the Hill estimates.

b. Assumes $l_2 = 0.833$.

Table 15. Measures of Adult Survivorship from 1970s Life Table Compared with Orphanhood Estimates at True Locations: Indonesia

Age (x)	$l_x/l_{32.5}$			l_x/l_{25}		
	T	Orphanhood (males)	1970s life table	T	Orphanhood (females)	1970s life table
45	4.9	.9152	.8902	8.2	.9163	.8660
50	7.0	.8586	.8210	9.8	.8685	.8157
55	9.1	.7848	.7329	11.4	.7941	.7486
60	11.0	.6676	.6206	13.0	.6749	.6489
65	13.2	.5079	.4922	14.2	.5606	.5263
70	14.5	.3474	.3537	14.3	.4252	.3869
75		.2009	.2203		.3000	.2502
80		.1229	.1110		.1670	.1344

Table 16. Estimates of the Expectation of Life at Age 20 for Females, by Region, Based on Orphanhood Data (Eldest Child) from SUPAS II: Indonesia

Region	Expectations of life at age 20, females[a]		
	Total	Urban	Rural
Indonesia	42.5	44.4	42.0
Java	42.8	44.9	42.3
Jakarta	44.0	44.0	—
West Java	42.6	45.3	42.3
Central Java	41.4	45.5[b]	40.9
Yogyakarta	48.4	49.1[b]	48.1
East Java	43.6	45.3	43.4
Outside Java	41.7	43.4	41.4
Sumatra	41.5	43.5	41.1
Kalimantan	42.0	41.3	41.5
Sulawesi	40.6	41.8	40.5
Bali	42.9	47.5[b]	42.4
Other islands	39.7	41.0	39.6

a. For an explanation of the method of derivation, see McDonald (1978b). Note that the calculation assumes somewhat arbitrarily that the expectation of life at age 75 is 6.5 years in all areas.

b. These estimates may be unreliable because the data showed a higher proportion of mothers surviving to respondents in a given age group than to respondents in the preceding age group. This occurred for one age group in the cases of urban Central Java and Yogyakarta and for two age groups in the case of urban Bali, presumably, at least in the latter two areas, because of the small size of the sample. When it is considered that for all regions and for all age groups, there were more than four hundred such comparisons between successive age groups, the fact that only four were in the unexpected direction is very encouraging.

Table 17. Selected Parameters from Life Tables Constructed for This Report: Indonesia

Age	A	B	C	D	E
Survivors at exact age x, l_x					
0	1.000	1.000	1.000	1.000	1.000
1	.841	.860	.879	.885	.905
5	.757	.791	.816	.828	.852
10	.742	.773	.797	.807	.830
15	.734	.764	.788	.796	.820
20	.723	.753	.778	.784	.808
25	.711	.739	.764	.769	.793
30	.697	.723	.747	.751	.774
35	.680	.703	.725	.728	.749
40	.660	.675	.699	.697	.720
45	.632	.640	.669	.658	.687
50	.571	.594	.633	.607	.647
55	.498	.534	.585	.542	.594
60	.423	.458	.512	.459	.515
65	.338	.370	.422	.364	.417
70	.252	.272	.317	.262	.307
75	.160	.176	.212	.163	.199
Life table population ${}_nL_x$					
0	.90	.91	.92	.92	.94
1	3.14	3.26	2.35	3.39	3.48
5	3.75	3.91	4.03	4.09	4.20
10	3.69	3.84	3.96	1.01	4.12
15	3.64	3.79	3.92	3.95	4.07
20	3.59	3.73	3.86	3.88	4.00
25	3.52	3.66	3.78	3.80	3.92
30	3.44	3.56	3.68	3.70	3.81
35	3.35	3.44	3.56	3.56	3.67
40	3.23	3.29	3.42	3.39	3.52
45	3.01	3.08	3.25	3.16	3.34
50	2.67	2.82	3.04	2.87	3.10
55	2.30	2.48	2.74	2.50	2.77
60	1.90	2.07	2.33	2.06	2.33
65	1.48	1.61	1.85	1.56	1.81
70	1.03	1.12	1.32	1.06	1.26
75+	.91	1.08	1.36	.96	1.19

Table 17 (*continued*)

Age	A	B	C	D	E
Expectation of life at age x, e^0_x					
0	45.6	47.7	50[illegible]	48.9	51.6
1	53.1	54.3	56.3	54.2	56.0
5	54.8	54.9	56.5	53.8	55.4
10	50.9	51.2	52.8	50.1	51.8
15	46.5	46.8	48.4	45.8	47.3
20	42.1	42.4	44.0	41.5	43.0
25	37.8	38.2	39.7	37.2	38.8
30	33.5	34.0	35.6	33.1	34.7
35	29.2	29.9	31.6	29.0	30.8
40	25.1	26.0	27.7	25.2	26.9
45	21.1	22.3	23.8	21.6	23.1
50	18.0	18.8	20.0	18.2	19.3
55	15.3	15.6	16.4	15.0	15.8
60	12.6	12.8	13.4	12.3	12.9
65	10.1	10.3	10.8	9.8	10.3
70	7.7	8.1	8.5	7.7	8.1
75	5.7	6.1	6.4	5.9	6.2

Notes:

A: A life table for Indonesian females around 1964, constructed from data on the survival of mothers of eldest children (McDonald, 1978b:21).

B: The SVRP life table for males, 1974–77, SVRP areas (Gardiner, 1978).

C: The SVRP life table for females, 1974–77, SVRP areas (Gardiner, 1978).

D: Estimated Indonesian life table for males at mid-1970s (this report).

E: Estimated Indonesian life table for females at mid-1970s (this report).

and females based on the Coale–Demeny West Region model life tables. The life tables thus constructed for males and females are shown at D and E in Table 17.

The overall mortality level of the new tables is close to that found directly in the SVRP survey; however, the childhood rates are lower and the adult rates higher in the former. It may seem surprising that the adjustments are in opposite directions at these two stages of life. One possible reason for the inconsistency lies in the use of the same correction factor at all ages (found from the matching of the dual records). In some other studies, reports of deaths have been found to be more complete at child than at adult ages. Given the selective nature of the SVRP samples, however, it would be foolish to put much weight on the comparison.

The constructed tables retain the feature, present in the SVRP and indeed the SUPAS II death reports, of comparatively low mortality in the middle adult years, as compared with childhood and late ages. There seems no justification for smoothing out this characteristic by applying a single- or two-parameter model system. It would in fact be possible to graduate the life tables further by more elaborate procedures, for example, by use of the Zaba (1979) or Stoto (1981) alternative extensions of the logit model life table system to four parameters; however, such refinement does not seem justified for present purposes.

4 NUPTIALITY

This chapter describes changes in marriage patterns in Indonesia on a statistical level. No attempt is made to explain the reasons for those changes or to examine differences in marriage patterns among socioeconomic groups.

Before the 1970s, knowledge of marriage patterns in Indonesia was confined to a few isolated anthropological or demographic field studies (e.g., Gille and Pardoko, 1966; Singarimbun and Manning, 1974). There were only two sources of data that could be described as representative of broad areas: tables of age by marital status for three provinces of Java from the 1961 census, and for regions of Indonesia from the various rounds of the National Socioeconomic Survey (SUSENAS), held during the 1960s. These tables were analyzed by McNicoll and Mamas (1973). In their analyses, age at marriage, as indicated by proportions single in younger age groups or by the singulate mean age at marriage, was found to be lower for women in Java than for those in areas outside Java, the difference in means being about two years. Based on a comparison of proportions never married by age from earlier and later rounds of SUSENAS, McNicoll and Mamas tentatively suggested that there was an upward trend in age at first marriage in Indonesia during the 1960s.

During the 1970s, information on the marital status of the Indonesian population was obtained on an almost nationwide basis in the 1971 census, the 1973 Fertility-Mortality (FM) Survey, and the three rounds of SUPAS. In addition, complete marital histories were obtained for female respondents aged 15–49 in the FM Survey and in SUPAS III. Questions on age at first marriage and the number of times married were asked in SUPAS II. This rapid change in the data situation has prompted studies of Indonesian nuptiality. Two major monographs have been published, both based primarily on the marital history information collected in the FM Survey (Muliakusuma, 1976; Al Hadar, 1977).[1] These monographs present detailed information on age at first marriage and the extent of polygamy, divorce, widowhood, and remarriage for the various regions of Indonesia, as well as for major socioeconomic groups. The FM Survey remains the major source of information on marriage patterns because of its large sample size and geographic spread as compared with SUPAS III, and the detail of its questions as compared with SUPAS II. However, the SUPAS data provide an excellent opportunity for comparisons with similar indices obtained from the 1971 census and the FM Survey, so that one can evaluate the relative accuracy of the data being analyzed.

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[1] A third major, unpublished study based on the FM Survey data, the Ph.D. thesis (University of Chicago) of Budi Suradji, was not available at the time of writing.

Methodology

In general, the monographs of Muliakusuma and Al Hadar make use of cohort rather than cross-sectional analysis. In other words, age at marriage is analyzed for birth cohorts, marital disruption is analyzed for marriage cohorts, and remarriage is analyzed according to the time of termination of the previous marriage. Since it has been pointed out that cross-sectional measures of nuptiality during periods of changing marriage patterns can be severely distorted and therefore misleading (McDonald, 1974), some confidence can be placed in their analyses.

Given data on age of the population by sex and marital status from a single enumeration, it is possible to construct an index of age at marriage called the singulate mean age at marriage (Hajnal, 1953). It should be noted, however, that the calculation of this measure involves an assumption that nuptiality patterns in the past have been constant; more importantly, the measure is not at all robust to variations in the assumption of constancy. It is therefore by definition incorrect to calculate this measure at two enumerations, and to then interpret the observed difference as the change in age at marriage. The singulate mean age at marriage is equally a misleading index of the age at marriage at a particular time, if age at marriage is changing. In addition, because of the skewed nature of the distribution of ages at first marriage, the mean of the distribution is less informative as a measure of central tendency than is the median or, for that matter, the mode. The following analysis therefore emphasizes cohort methods and the quartiles of the distribution of ages at marriage, rather than the mean of the distribution.

Age at First Marriage

A simple indicator of age at marriage is given by the proportion who are not yet married in some early adult age group. In Indonesia, the best indicator for females is the proportion never married in age group 15–19, and for males that proportion in age group 20–24. These indicators are shown in Table 18 for regions of Indonesia based on the 1971 census, the FM Survey, SUPAS I, and SUPAS II. One would expect the values obtained from the two SUPAS studies to be almost the same, and the values from the FM Survey (1973) to fall between those for the 1971 census and SUPAS. In fact, however, the proportions never married for both men and women were almost always higher in SUPAS I than in SUPAS II, while the FM Survey proportions are high in relation to those of SUPAS and the census. The trend between the FM Survey and SUPAS II would indicate a substantial decline in age at marriage, which is most unlikely. The information given in Table 18 is therefore somewhat disconcerting. When only one source of

Table 18. Percentages Never Married, Females Aged 15–19 and Males Aged 20–24, by Region, 1971 Census, 1973 FM Survey, SUPAS I, and SUPAS II: Indonesia

	Females				Males		
Region	1971 census	FM Survey	SUPAS I, 1976	SUPAS II, 1976	1971 census	SUPAS I, 1976	SUPAS II, 1976
Indonesia	62.1	—	67.6	64.4	58.2	57.9	55.2
Java	56.3	—	62.6	59.2	56.2	55.9	53.7
Jakarta	68.5	—	72.5	73.7	70.7	69.0	72.1
West Java	47.0	55.3	51.3	44.8	42.9	44.3	42.0
Central Java	60.1	75.0	67.3	65.4	57.0	56.8	52.0
Yogyakarta	85.4		82.9	86.0	78.1	69.5	71.6
East Java	55.0	62.8	63.3	59.6	60.3	59.6	58.1
Outside Java[a]	72.2	—	76.7	73.8	61.6	61.7	58.1
Sumatra	69.8	76.9	76.1	71.6	62.3	62.0	56.5
Kalimantan	71.1	—	70.7	67.8	63.2	61.1	58.2
Sulawesi	76.1	82.8	79.8	79.9	60.1	60.7	59.6
Bali	80.5	88.0	82.3	80.6	59.2	60.2	61.1
Other islands[a]	73.6	—	83.4	82.0	59.1	63.4	64.4

a. The areas of "other islands" not included in SUPAS I and II have been excluded from the 1971 census data so that the comparison is precise.

data is available and its results look reasonable, it is accepted; when four sources of data are available, their consistency must be considered.

The differences among data sources could relate to differing patterns of age misstatement in relation to marital status, or to relative under- or overenumeration of certain marital statuses. Of course, some degree of random fluctuation might also be expected, but given the large size of all four enumerations, this source of error should be minimal. Although numerous hypotheses might be advanced to explain the observed, unexpected differences among proportions never married, it would be difficult to prove any of these hypotheses without having followed the interviewers in all four enumerations. It seems, though with little supporting evidence, that the two larger enumerations, the 1971 census and SUPAS I, may provide the best indication of the levels and trends in age at marriage. From this comparison, it would be concluded that age at first marriage rose slightly between 1971 and 1976 for females and remained constant for males.

The differences among regions are consistent across the various enumerations and tend also to confirm the observations made on the basis of data from the 1960s. Age at marriage for females is generally higher outside than within Java. In Java, the earliest age at marriage occurs in West Java, followed by East and Central Java, and with a much later age at marriage in Yogyakarta. The age at marriage in Jakarta was much lower than that in Yogyakarta, but also lower than that in the regions outside Java. Outside Java, age at marriage was highest in Bali, followed by Sulawesi. The regional differences for males show some variation from those for females. With the exception of the very early age at marriage for males in West Java and the late age in Yogyakarta, there were very few differences among regions in the age at marriage of males. This means that age differences between husbands and wives must be substantially lower in Bali than in East Java. It may also be noted that the high proportion of males never married in age group 20–24 in Jakarta may reflect migration patterns.

Given the problems involved with tables of marital status and age, it is possible that analysis of responses to direct questions on age at marriage may provide more reliable information on the levels and trends in age at marriage. Such information is available for females from three major sources: the marital histories in the FM Survey and SUPAS III, and a direct question on age at first marriage asked in SUPAS II. These data are best analyzed in cohort form in terms of the characteristics of the distribution of ages at first marriage. Table 19 therefore shows the age by which 25 percent, 50 percent, and 75 percent of persons in a given age group (birth cohort) had married in the three studies from which the data are available. Because little variation was observed in the quartile ages at marriage for

Table 19. Ages at Which Percentages of Various Birth Cohorts of Women Had Married, FM Survey, SUPAS II, and SUPAS III: Java and Bali

Region and age at survey	Quartile (percentage)	FM Survey	SUPAS II	SUPAS III
West Java				
20–24	25	15.2	15.4	14.5
	50	16.9	17.2	16.3
	75	18.7	20.0	19.1
25–29	25	14.8	14.9	13.5
	50	16.4	16.3	15.8
	75	18.5	18.3	18.5
30–49	25	14.2	14.8	13.0
	50	16.0	16.0	15.2
	75	17.9	17.8	17.0
Central Java[a]				
20–24[b]	25	16.3	16.1	15.7
	50	18.2	18.0	17.8
	75	20+	20+	20+
25–29	25	15.6	15.5	14.8
	50	17.4	17.4	16.6
	75	19.6	19.6	19.1
30–49	25	15.3	15.2	13.5
	50	17.0	16.8	15.8
	75	19.4	18.7	18.4
East Java				
20–24[b]	25	15.3	15.8	14.7
	50	17.1	17.9	16.9
	75	19.2	20+	20.0
25–29	25	14.8	15.3	13.4
	50	16.7	16.9	15.8
	75	19.2	19.2	18.6
30–49	25	14.3	15.0	13.4
	50	16.3	16.5	15.6
	75	18.8	18.6	18.1
Bali				
20–24[b]	25	18.3	18.3	16.9
	50	20+	20+	19.5
	75	20+	20+	20+
25–29	25	17.4	18.5	16.8
	50	19.5	20.4	19.5
	75	23.1	23.3	22.8
30–49	25	17.5	18.8	16.7
	50	19.5	20.7	19.6
	75	22.6	24.2	23.1

a. Includes Yogyakarta.

b. Age 20+ indicates that the quartile age overlaps with the current age, and thus the results may be misleading.

the age groups 30–34, 35–49, 40–44, and 45–49, these were combined into a single category to facilitate the analysis.

Since the FM Survey predated SUPAS by three years, the quartiles shown for age group 20–24 in the FM Survey correspond to a group about halfway between those aged 20–24 and 25–29 in SUPAS. With some exceptions, Table 19 shows a fairly high level of consistency between the FM Survey and SUPAS II, but the estimates of age at marriage from SUPAS III are generally somewhat lower, particularly at the first quartile. In fact, the levels for SUPAS III seem unreasonably low, with 25 percent of women in West and East Java marrying before or around their thirteenth birthday. All three sources of data indicate very slight rises in age at marriage from the cohort aged 30–49 to that aged 25–29, with a steeper rise occurring between those aged 25–29 and 20–24 for the three regions of Java. Little change in age at marriage is evident for Bali; the level of age at marriage in Bali is substantially greater than the levels in the three provinces of Java.

Given the relative consistency of direct data on age at marriage from SUPAS II and the FM Survey, the broader regional comparisons made in Table 20 are based on SUPAS II because of its wider geographic coverage. Regarding differences in levels among regions, Table 20 confirms that age at marriage for women is highest in Bali and Yogyakarta, with the median age in both provinces exceeding 20 for rural women aged 20–24 in 1976. The high age at marriage in Yogyakarta is shown to be the result of a strong upward trend over time; in the case of Bali, the median age at marriage has been high for a long time and may even have decreased slightly in recent years. The areas of eastern Indonesia—Sulawesi and "other islands"—had the next highest ages at marriage, while the lowest ages prevailed in the three large provinces of Java, with the earliest occurring in West Java.

In urban areas, a strong upward trend in marriage age is evident throughout Indonesia; the median age at first marriage now exceeds 20 in all urban areas, with the interesting exception of Jakarta. In rural areas, there appears to have been little increase in age at marriage among women between ages 25 and 50 in 1976, with the major exception of rural Yogyakarta, and to a lesser extent Central and East Java. However, data for rural women aged 20–24 in 1976 indicate a clear movement to a higher age at marriage, with the strongest rises occurring in Yogyakarta, East Java, and Sulawesi. The cohort aged 20–24 in 1976 would have been marrying primarily in the latter 1960s and early 1970s. Finally, the urban–rural difference in age at marriage is much wider within than outside Java; in fact, for women aged 30–49 living outside Java, there was very little difference in age at marriage between rural and urban areas.

In conclusion, it used to be that 50 percent of Indonesian women married before their seventeenth birthday. For women aged 20–24 in 1976, this

Table 20. Ages at Which 50 Percent of Each Age Group Had Married, Urban and Rural Females, by Region, SUPAS II: Indonesia

Region	Age group[a]	Total	Urban	Rural
Indonesia	20-24	18.3	20.5+	17.9
	25-29	17.4	19.4	17.1
	30-49	17.0	18.1	16.8
Java	20-24	17.8	20.4	17.3
	25-29	16.9	19.3	16.6
	30-49	16.5	17.8	16.3
Jakarta	20-24	19.6	19.6	—
	25-29	19.4	19.4	—
	30-49	17.7	17.7	—
West Java	20-24	17.2	20.1	16.9
	25-29	16.3	18.7	16.1
	30-49	16.0	17.3	16.0
Central Java	20-24	17.7	20.5+	17.3
	25-29	17.1	19.8	16.9
	30-49	16.6	18.3	16.4
Yogyakarta	20-24	20.5+	b	20.5+
	25-29	20.2	b	20.0
	30-49	18.9	b	18.7
East Java	20-24	17.9	20.5+	17.9
	25-29	16.9	19.0	16.9
	30-49	16.5	17.8	16.4
Outside Java	20-24	19.3	20.5+	18.9
	25-29	18.5	19.5	18.3
	30-49	18.4	18.5	18.4
Sumatra	20-24	18.8	20.4	18.5
	25-29	18.1	18.9	17.9
	30-49	18.1	18.2	18.0
Kalimantan	20-24	18.7	20.5+	18.3
	25-29	18.5	19.9	18.0
	30-49	18.1	18.7	17.9
Sulawesi	20-24	20.4	20.5+	20.1
	25-29	19.0	19.7	18.8
	30-49	18.5	18.5	18.5
Bali	20-24	20.3	b	20.0
	25-29	20.4	b	20.3
	30-49	20.7	b	20.7

Table 20 (*continued*)

Region	Age group[a]	Total	Urban	Rural
Other islands	20–24	20.0	b	19.6
	25–29	19.3	b	19.1
	30–49	19.3	b	19.2

a. For age group 20–24, the median frequently falls within the age group. This means that the ultimate median for this age group may still be affected by the future marriages of women aged 20–24. In these instances, the result has been written as 20.5+, except where the median is only a little greater than 20.

b. Unreliable because of small sample size.

age had risen to 18.3 years. Therefore, age at first marriage is increasing, but quite slowly.

Marital Disruption and Remarriage

The proportions reported as currently widowed or divorced are the net effect of marital disruption and remarriage. The utility of such data in measuring the extent of marital disruption or remarriage is therefore limited. However, comparison of these data from different data sources can be used to evaluate the accuracy of the sources. For example, on the basis of a comparison with data from the 1971 census, it has been concluded that the FM Survey heavily underenumerated widowed and divorced women (McDonald et al., 1976). An examination of the proportions widowed and divorced by age groups from SUPAS I and II indicates that the two sources are relatively consistent with each other and also with the 1971 census data.

Another measure that gives an idea of the extent of marital disruption and remarriage combined is the percentage of persons in a given age group who had married more than once. This index is shown for women aged 40–49 in the FM Survey and SUPAS II in Table 21 for the various regions of Indonesia. The comparison in this table is disconcerting. A striking example is the regional comparison between East Java and Sumatra: Data from the two sources are relatively consistent for Sulawesi and Bali and for urban areas in Java, but SUPAS yields much higher proportions married more than once in rural areas of Java and a much lower proportion in rural Sumatra. There are no explanations for these differences other than sampling variability or inaccuracy in one or both sources. Given that the FM Survey heavily underenumerated currently widowed and divorced females aged 40–49, and positing that currently widowed and divorced persons tend to include a relative preponderance of once-married persons, the percentages married more than once from the FM Survey would tend to be biased on the high side. This deficiency thus does not explain the differences be-

Table 21. Percentages of Ever-Married Urban and Rural Women Aged 40–49 Who Had Married More Than Once, by Region: Indonesia

Region	Source	Total	Urban	Rural
Indonesia	SUPAS II	37.0	28.5	38.7
Java	SUPAS II	44.0	31.6	46.5
Jakarta	SUPAS II	30.2	30.2	—
West Java	FM Survey	43.9	40.3	44.3
	SUPAS II	54.7	43.8	56.1
Central Java	FM Survey[a]	28.7	26.0	29.1
	SUPAS II	44.9	30.8	46.6
Yogyakarta	SUPAS II	33.6	26.9	35.0
East Java	FM Survey	31.4	27.2	32.1
	SUPAS II	38.3	26.5	40.1
Outside Java	SUPAS II	20.0	22.1	19.6
Sumatra	FM Survey	31.7	20.6	34.5
	SUPAS II	19.9	26.5	18.3
Kalimantan	SUPAS II	15.5	12.0	16.5
Sulawesi	FM Survey	20.2	18.0	20.7
	SUPAS II	20.8	20.5	20.9
Bali	FM Survey	13.0	—	—
	SUPAS II	15.4	14.0	15.5
Other islands	SUPAS II	29.6	7.4	32.2

a. Includes Yogyakarta.

tween SUPAS and the FM Survey in rural Java. The SUPAS II figure for rural Sumatra seems far too low given the percentage married more than once in urban areas. On the other hand, the urban–rural differences in Java appear to be rather low in the FM Survey data. Alden Speare (1978) warned that SUPAS II, because of the highly clustered nature of the sample, may give misleading estimates of interisland rural-to-rural migration. If the extent of divorce and remarriage varies widely from village to village within a region—and some evidence suggests that this may be the case—there may be a possibility that SUPAS–FM Survey differences are due to sampling errors. This is a matter that needs further investigation.

It can be concluded from Table 21, however, that between 35 and 45 percent of women aged 40–49 in Java had married more than once, while outside Java this proportion was much lower. Most of this remarriage would have occurred subsequent to divorce rather than widowhood. The lowest rates of multiple marriage occurred in Bali, and the highest in West Java.

Direct measures of the extent of divorce are available only from the marital history data obtained in the FM Survey and SUPAS III. A thorough analysis of levels and trends in divorce based on the FM Survey has been made by Muliakusuma (1976), whose summary table is reproduced here as Table 22. This table shows regional differences in divorce similar to those indicated by Table 21. Divorce is shown to be infrequent in Bali and Sulawesi and most frequent in West Java, where among women married in the 1940s, about 45 percent had divorced within 20 years of marriage. Given that a further 6 percent had been widowed in the same period (Muliakusuma, 1976), more than 50 percent of first marriages in West Java in the 1940s were terminated within 20 years; the comparable figure for Bali was only about 20 percent.

Table 22 also indicates that the divorce rate from the first marriages has been decreasing in all areas, a trend shown clearly in Muliakusuma's graphs. Most divorces occurred within five years of marriage in all regions; in fact, in most regions about 60 percent of divorces in the first 20 years took place in the first three years. However, Muliakusuma also shows that the divorce rate from marriages subsequent to the first was even higher than the rate from first marriages, and that the duration of the higher-order marriages ending in divorce was just as brief. Following divorce, about 50 percent of women remarried within two years and about 80 percent within five years. Widows were less likely to remarry, perhaps because they were older on average than divorcees, but even 40–50 percent of widows under age 45 had remarried within five years.

An analysis of marital history data from SUPAS III has not been possible for this study. However, as noted above, much of Muliakusuma's detailed analysis from the FM Survey data will not be possible from SUPAS III because of the relatively small size of the sample. SUPAS III, however, included the category "separation" as a means by which marriages could end, a category not so clearly defined in the FM Survey. Of all terminations of first marriages by divorce or separation recorded in SUPAS III, 8 percent were separations; however, many separated women would have been awaiting a legal divorce, particularly those who had been deserted.

Only one table based on SUPAS III is given here, showing the extent of marital disruption in the provinces of Java and Bali. Table 23 displays the percentage of women whose first marriages had ended in divorce or separation according to the number of years that had elapsed between the time of the marriage and the survey. This table does not add very much to the conclusions already drawn, except that it shows a higher proportion of marriages terminated under one year than is apparent in the FM Survey

Table 22. Cumulative Percentages of Rural and Urban Women Divorced from First Marriages, by Duration of Marriage and Region, Marriage Cohorts of 1940–49, 1950–59, and 1960–69, FM Survey, 1973: Indonesia

Duration of marriage in completed years	Year of marriage					
	1940–49		1950–59		1960–69	
	Urban	Rural	Urban	Rural	Urban	Rural
West Java						
1	7	13	4	10	3	8
3	28	28	16	23	10	20
5	36	34	20	28	a	a
10	41	39	22	33	a	a
20	46	43	a	a	a	a
Central Java						
1	3	6	5	6	2	5
3	14	19	12	17	9	13
5	17	23	16	21	a	a
10	20	26	21	25	a	a
20	25	29	a	a	a	a
East Java						
1	5	6	3	7	4	6
3	11	17	10	17	8	15
5	13	21	14	20	a	a
10	18	25	19	24	a	a
20	21	28	a	a	a	a
Bali						
1	—	1	—	2	—	2
3	—	4	—	6	—	5
5	—	7	—	7	—	a
10	—	10	—	9	—	a
20	—	11	—	a	—	a
Sumatra						
1	2	7	1	4	1	4
3	7	19	5	12	4	10
5	13	22	9	15	a	a
10	18	28	11	18	a	a
20	20	32	a	a	a	a
Sulawesi						
1	2	1	1	2	1	2
3	6	7	5	7	3	5
5	9	10	8	10	a	a
10	12	13	12	13	a	a
20	14	15	a	a	a	a

a. Biased because not all women in the given marriage cohort had completed the relevant marriage duration by the time of the survey.

Source: Muliakusuma (1976:table IV.2, p. 54).

Table 23. Percentages of First Marriages Ending in Divorce or Separation According to the Number of Years That Elapsed between the Marriage and the Survey Data, by Region, SUPAS III: Indonesia

Region	Years elapsed since first marriage				
	<1	1	2–4	5–9	10+
Java	13.5	16.9	23.5	26.9	38.5
Jakarta	6.1	12.2	14.3	18.5	30.7
West Java	14.3	15.7	27.2	34.5	44.8
Central Java	16.8	20.1	23.0	24.3	37.1
Yogyakarta[a]	10.0	10.7	10.9	16.6	29.1
East Java	11.9	17.0	22.9	23.8	36.7
Bali[a]	5.9	0	1.6	7.1	7.4

a. Based on small sample size.

data. This may reflect the inclusion of separations, which under one year of time elapsed since marriage accounted for about 50 percent of all terminations.

In summary, the level of divorce in Java is high but slowly declining, while the divorce rate outside Java is much lower. Divorce occurs rapidly after marriage, and remarriage usually follows divorce within a short period. However, the divorce rate from higher-order marriages is just as high, if not higher, than that from first marriages. For marriages taking place in the 1940s, only about 6 percent were terminated by the death of the husband in the first 20 years, and with mortality decline, this proportion is falling. Around 50 percent of widows (under age 45) remarried within five years.

Table 24, again taken directly from the study of Muliakusuma, indicates that the completed fertility of once-married women was about 15 percent higher than that of women who had been married more than once, the exception being rural Central Java. However, in another table, Muliakusuma shows that the low average fertility of women married more than once appears to have been related to the higher proportion of these women with parity zero, one, or two. In other words, low fertility may have been a contributing factor to divorce, rather than the reverse. If this is the case, then the divorce rate may not be having a very great effect on the average completed fertility of any region of Indonesia.

Conclusion

The comparison of various sources of data on nuptiality in Indonesia indicates many inconsistencies. In respect to tables of marital status cross-classified by age, it appears that the most accurate measures of level and

Table 24. Average Numbers of Children Ever Born to Women Who Had Married for the First Time 15 Years or More before the Survey, by Number of Marriages and Region, FM Survey, 1973: Indonesia

Region (1)	Average number of children ever born		
	Married once (2)	Married more than once (3)	Marriage-fertility ratio (4) = (2)/(3)
West Java			
Urban	6.15	4.83	1.27
Rural	5.73	4.89	1.17
Central Java			
Urban	5.17	4.08	1.27
Rural	4.48	4.77	0.94
East Java			
Urban	4.45	3.12	1.43
Rural	4.54	3.94	1.15
Bali, Total	5.92	5.25	1.13
Sumatra			
Urban	6.68	5.80	1.15
Rural	6.36	5.48	1.16
Sulawesi			
Urban	5.92	4.90	1.21
Rural	5.97	5.68	1.05

Source: Muliakusuma (1976:table V.5, p. 100).

change can be obtained from the 1971 census data in comparison with data from SUPAS I in 1976. The proportion of females currently married by age group for provinces of Java and Bali based on the 1971 census and SUPAS I is shown in Table 25. For 1976 the category "separated" in the SUPAS data has been combined with the category "married" used in the 1971 census.

It is conventional to examine the impact of changes in proportions married upon the total fertility rate by holding age-specific marital fertility rates constant while the proportions married are varied. If this exercise is carried out for the six provinces for which data are given in Table 25, changes in proportions married between 1971 and 1976 lead to the following changes in the total fertility rate:

Jakarta	-4%
West Java	No change
Central Java	-3%

Yogyakarta	+2%
East Java	-2%
Bali	-3%

Despite problems with the data, it is probable that the impact of changing marriage patterns on fertility was quite small in the period 1971-76. For the six provinces considered, the amount of fertility change attributable to nuptiality change appears to be negligible. The mechanics of the impact of changes in marriage patterns on fertility are more complicated than this simplistic analysis would imply. For example, with increased age at marriage, age-specific marital fertility rates at younger ages may increase; the distribution of married persons by duration of marriage would change, leading to translation effects. If the higher proportions married at older ages represent a lower likelihood of divorce among sterile or subfecund women, then the increased proportions married at these ages will not yield higher total fertility. Despite these methodological reservations, the conclusion that changes in marriage patterns during the first half of the 1970s have had very little impact on fertility is still likely to prevail. This conclusion agrees closely with the lack of emphasis on increased age at marriage in Indonesian population and social policy.

Table 25. Proportions of Women Currently Married (Including Separated), by Age Group, 1971 Census and SUPAS I: Indonesia

Age group	Year	Jakarta	West Java	Central Java	Yogya-karta	East Java	Bali
15-19	1971	.281	.444	.339	.131	.372	.182
	1976	.252	.419	.284	.153	.321	.169
20-24	1971	.667	.814	.748	.559	.739	.689
	1976	.602	.790	.718	.573	.704	.628
25-29	1971	.832	.889	.878	.847	.858	.841
	1976	.791	.888	.865	.826	.855	.835
30-34	1971	.854	.889	.870	.866	.862	.850
	1976	.871	.898	.879	.871	.869	.860
35-39	1971	.831	.851	.838	.866	.815	.855
	1976	.842	.872	.867	.846	.853	.861
40-44	1971	.737	.763	.764	.811	.709	.805
	1976	.780	.804	.788	.830	.760	.787
45-49	1971	.679	.694	.689	.742	.631	.760
	1976	.708	.732	.725	.784	.687	.771

5 FERTILITY

The main sources of fertility estimates in Indonesia are as follows:

- Retrospective data on children ever born by age of mother (1971 census; 1973 FM Survey; 1976 SUPAS I, II, III; and fragmentary materials from the 1961 census).
- The same retrospective data categorized by household, the basis for the so-called own children method of estimation (1971 census; 1976 SUPAS I, II).
- Data on last birth (SUPAS II).
- Recorded pregnancy histories (1973 FM Survey; SUPAS III).
- The 1980 census, which gives critical evidence on numbers of children by age and when processed will provide both retrospective and last-births data.

Problems involved in all of these data types dictate caution in deriving estimates, although they are by no means unique to the Indonesian case. The problems of concern include: understatement of children ever borne by older women; significant proportions of women (5–10 percent) for whom parity for some reason is not stated; differential undernumeration of population by age (most strikingly, of children below age 1 in the 1971 census); age misreporting, including the extreme age heaping found in the Indonesian single-year age distributions; and systematic timing errors that often enter pregnancy history data (see Potter, 1977).

Despite these problems, there are now enough independent data sources so that, using corrobating estimates from various sources and different estimation methods, it is possible to form a picture of Indonesian fertility that can be accepted with a reasonable assurance of accuracy. Unfortunately, the picture, as with mortality, covers only the 1960s and an incomplete part of the 1970s. Prior to this period, knowledge of Indonesian fertility is fragmentary and national estimates are quite speculative. Fertility changes in the late 1970s are likely to be known only when results of the 1980 census have been fully analyzed.

"Own-Children" Fertility Estimates

The Cho–Graybill "own-children" method of fertility estimation involves the backward projection of numbers of mothers and children within households to the time of each birth and aggregation over households. In addition, adjustments must be made to allow for household members' children living elsewhere and for other children living in the household, and imputation rules must be developed for cases where more than one mother resides in the household. The method also requires the preparation of special tabulations in which information about household residence is not obliterated (as happens in the conventional tabulations of children ever born by age of mother). Such tables were prepared for the 1971 census and SUPAS I and II.

Own-children estimates can be made by single calendar year for an interval of ten or more years prior to the enumeration. However, problems of underenumeration and errors in the basic age data (affecting both the numerator—estimates of births—and the denominator—women of childbearing age) argue against using such single-year estimates. The gross underenumeration of children aged less than 1 year in the 1971 census, and to a lesser degree in SUPAS I and II, means that any fertility estimate using that age group would need a major adjustment for undercount. To avoid this, we do not present estimates for the year preceding these enumerations. Age misstatement and differential underenumeration problems at higher ages are recognized by a grouping of the data into broader age groups—using ranges chosen to minimize age-heaping distortions. In the original report giving own-children fertility estimates from the 1971 census (Cho et al., 1976), average fertility rates were presented for the periods 1961-63, 1964-66, and 1967-70 (and for the whole decade, 1961-70); the SUPAS I and II data have been used to give fertility estimates for 1967-70 and 1971-75.

Obvious interest attaches to the estimates for 1967-70, since they show the extent of consistency of the 1971 census and SUPAS. The 1971 census estimates for this period are based on children aged 1-4, while the SUPAS estimates are based on children aged 6-9. (For SUPAS I, the mortality adjustment used the 1971 census child-mortality estimates, since SUPAS I, unlike SUPAS II, did not collect data on children ever born and surviving.)

Table 26 presents average fertility estimates for the period 1967-70 for Indonesia and its major administrative and geographic subdivisions based on the 1971 census and SUPAS I and II; shown in the righthand column are estimates for 1967-71 based only on the survey data on own children aged 5-9. For Indonesia as a whole, the estimated total fertility rates (TFRs) derived from the different sources are very close—5.52 based on the census, as compared with 5.66 and 5.46 for the SUPAS estimates. Considering that these estimates are based on three different enumerations and two different age segments, the agreement is striking. The different data sources are also highly consistent for the provincial and regional breakdowns within Indonesia: Among the provinces and regions identified, the largest divergence in TFR (some 7-8 percent) is found in East Java, Kalimantan, and Sulawesi. The TRFs shown for 1967-71 indicate the negligible difference in the estimates even when children aged 5 are included in the calculation. Typically, age data for Indonesia exhibit severe age misstatement and heap-

Table 26. Age-Specific Fertility Rates, 1967-70, and Total Fertility Rates, 1967-70 and 1967-71, by Region: Indonesia

Province/region and source	Age-specific fertility rates, 1967-70							TFRs	
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	1967-70	1967-71
Jakarta									
Census	140	266	268	198	110	41	12	5.12	
SUPAS I	114	246	267	197	134	46	7	5.05	5.07
SUPAS II	97	234	245	199	126	57	20	4.88	4.87
West Java									
Census	208	305	280	211	119	50	14	5.86	
SUPAS I	180	284	278	210	141	63	26	5.90	5.94
SUPAS II	160	267	280	215	156	68	24	5.84	5.82
Central Java									
Census	144	284	265	199	115	47	12	5.27	
SUPAS I	145	272	272	208	134	53	17	5.51	5.46
SUPAS II	122	255	258	207	129	63	26	5.30	5.22
Yogyakarta									
Census	68	253	252	199	117	48	14	4.68	
SUPAS I	81	225	242	188	129	63	17	4.73	4.71
SUPAS II	60	224	248	200	148	62	24	4.83	4.78
East Java									
Census	149	246	225	169	96	45	14	4.65	
SUPAS I	139	239	232	169	114	47	22	4.81	4.83
SUPAS II	132	226	204	167	109	42	16	4.48	4.58
Total Java									
Census	163	275	254	191	109	47	13	5.20	
SUPAS I	149	260	258	193	129	54	20	5.32	5.33
SUPAS II	132	246	245	195	129	57	22	5.13	5.13

Table 26. *(continued)*

Province/region and source	Age-specific fertility rates, 1967-70							TFRs	
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	1967-70	1967-71
Bali									
Census	134	298	300	229	137	67	26	5.82	
SUPAS I	107	265	286	220	157	84	37	5.78	5.75
SUPAS II	79	236	285	234	169	89	39	5.65	5.69
Sumatra[a]									
Census	154	324	324	260	157	69	20	6.44	
SUPAS I	159	312	328	258	170	84	31	6.70	6.68
SUPAS II	147	292	293	242	175	81	29	6.30	6.26
Kalimantan[b]									
Census	158	288	286	223	131	69	23	5.78	
SUPAS I	156	287	290	234	158	82	32	6.20	6.15
SUPAS II	129	293	283	218	166	75	26	5.95	5.86
Sulawesi[c]									
Census	129	289	298	244	148	71	25	5.90	
SUPAS I	137	288	307	252	170	80	34	6.34	6.34
SUPAS II	105	266	298	243	187	90	41	6.15	6.22
Total Indonesia									
Census	155	286	273	211	124	55	17	5.52	
SUPAS I	148	272	276	210	140	62	24	5.66	5.66
SUPAS II	130	259	261	208	143	65	24	5.46	5.45

Note: Figures for the provinces of West Nusa Tenggara, East Nusa Tenggara, Maluku, and Irian Jaya are not given.

a. Sumatra includes the eight provinces of Aceh, Riau, Jambi, Bengkulu, Lampung, and North, West, and South Sumatra.

b. Kalimantan includes the four provinces of West, Central, South, and East Kalimantan.

c. Sulawesi includes the four provinces of North, Central, South, and Southeast Sulawesi.

Sources: Estimated from the 1971 census, SUPAS I (1976) own-children estimates (based on child mortality estimates from SUPAS II), and SUPAS II (1976).

ing at ages ending in 5 or 0; in SUPAS I and II, however, age heaping around age 5 does not appear to be a serious problem.

For age-specific fertility rates in 1967-70, Table 26 shows that agreement among the different sets of data is close except for the two age groups at the beginning and end of the reproductive span—15-19 years and 45-49 years. In the former case, the differences may be due to migration, which is selectively high for young women and probably results in frequent separation of children from their mothers. The deviation for the 45-49 age group has little impact on the overall fertility rate because fertility of women in this age category is only a small proportion of total fertility.

We have seen fairly convincing agreement between the fertility rates based on the 1971 census and the SUPAS for the same reference period—for both total rates and age categories. This agreement encourages us to use the estimated fertility rates from SUPAS I and II for the period 1971-75. (The mortality adjustment for the SUPAS I fertility estimates in this period was made using child mortality estimates derived from SUPAS II.) These data are presented in Table 27.

For Indonesia as a whole, SUPAS I shows an 11 percent decline in total fertility between the two periods (from 5.66 for 1967-70 to 5.08 for 1971-75); SUPAS II estimates show a 6 percent decline (from 5.46 to 5.12). The declines are observed in all age groups, with the most substantial decline (35 percent) in the lowest-fertility age group of 45-49 years. Remarkably similar declines (7-9 percent) are found in each major region. These results are discussed below in conjunction with other fertility data.

Using an extension of the own-children method, duration-specific marital fertility rates were derived from SUPAS II. (Strictly, the rates discussed here apply to ever-married rather than currently married women.) Table 28 presents duration-specific marital fertility rates of women aged 15-49 for the two periods 1967-70 and 1971-75. It appears that the decline in marital fertility took place primarily in Java and Bali; there seems to be no significant change in the marital fertility rates for other islands. The rates show control for the impact of nuptiality. For Java, the decline between the two periods of 1967-70 and 1971-75 was 5 percent. The pattern of differential fertility revealed by these rates is similar to the differential TFRs indicated in Tables 26 and 27.

Fertility Trends in the 1960s

Age-specific fertility rates by calendar years were calculated from the birth histories of the FM Survey (McDonald et al., 1976) for the six regions (86 percent of the population) that were sampled separately. A comparable series of cumulated fertilities up to age 35 can be constructed from 1957 onward. Selected time-period averages from these measures are shown in Table

Table 27. Age-Specific Fertility Rates and Total Fertility Rates, by Region, 1971-75: Indonesia

Province/region and source	Age-specific fertility rates							
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	TFR
Jakarta								
SUPAS I	104	234	246	180	110	45	12	4.65
SUPAS II	105	242	246	169	98	45	13	4.59
West Java								
SUPAS I	162	280	267	208	118	58	19	5.56
SUPAS II	150	258	263	218	133	69	18	5.55
Central Java								
SUPAS I	114	251	236	181	109	48	11	4.74
SUPAS II	113	256	240	187	106	49	10	4.80
Yogyakarta								
SUPAS I	60	197	217	178	101	53	14	4.10
SUPAS II	50	197	233	189	112	69	16	4.33
East Java								
SUPAS I	122	223	201	151	86	43	16	4.21
SUPAS II	114	225	194	150	95	50	14	4.21
Total Java								
SUPAS I	128	248	233	178	103	49	15	4.76
SUPAS II	121	244	231	182	110	55	14	4.78
Bali								
SUPAS I	95	249	254	198	124	69	32	5.10
SUPAS II	87	259	243	206	139	78	42	5.27

Sumatra								
SUPAS I	119	296	289	239	145	71	24	5.91
SUPAS II	122	291	295	240	156	72	26	6.01
Kalimantan								
SUPAS I	126	263	272	211	131	69	25	5.48
SUPAS II	118	261	278	216	135	77	22	5.53
Sulawesi								
SUPAS I	110	268	292	234	153	76	25	5.78
SUPAS II	88	250	288	240	163	99	34	5.81
Total Indonesia								
SUPAS I	124	258	250	195	115	56	18	5.08
SUPAS II	117	254	251	200	123	62	18	5.12

Note: See footnotes, Table 26.

Source: Estimates from SUPAS I and II (1976).

Table 28. Duration-Specific Marital Fertility Rates of Women Aged 15–49, by Region, 1967–70 and 1971–75: Indonesia

Province/region and period	Duration since first marriage (years)																Ever-married TFR	Absolute difference in TFR
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+		
Total Indonesia																		
1967–70	188	268	305	300	295	303	290	286	293	286	272	262	260	256	243	110	6.06	
1971–75	208	294	320	313	314	311	298	294	287	268	265	260	246	232	214	98	5.87	–.19
Jakarta																		
1967–70	236	344	361	323	283	271	261	279	307	284	242	234	232	198	211	102	5.82	
1971–75	304	380	352	351	332	306	285	263	270	252	225	238	227	195	184	84	5.61	–.21
West Java																		
1967–70	200	259	306	285	255	286	295	295	326	311	286	281	292	281	268	124	6.56	
1971–75	215	268	279	273	286	300	284	285	287	266	267	266	276	263	235	112	6.14	–.42
Central Java																		
1967–70	147	243	261	231	261	302	275	259	286	298	271	269	248	238	241	111	5.86	
1971–75	192	262	277	277	296	304	282	277	288	285	269	258	232	206	208	36	5.48	–.38
Yogyakarta																		
1967–70	185	275	270	258	271	289	303	291	250	251	249	208	229	246	209	103	5.46	
1971–75	185	284	315	297	256	251	267	258	243	238	251	258	211	199	197	84	5.07	–.39
East Java																		
1967–70	162	200	243	287	280	263	255	238	218	221	217	199	200	201	198	88	4.98	
1971–75	155	244	274	262	281	272	263	272	241	213	208	218	209	180	161	76	4.84	–.14
Total Java																		
1967–70	176	243	276	274	269	281	273	263	271	270	252	242	240	233	229	105	5.71	
1971–75	197	270	285	278	291	291	276	276	269	250	242	244	234	210	196	89	5.43	–.28

Bali																		
1967–70	151	324	372	368	355	325	347	329	295	284	254	256	266	270	264	108	6.02	
1971–75	171	345	427	385	371	357	285	266	298	247	234	230	194	202	204	99	5.64	–.38
Sumatra																		
1967–70	197	319	385	360	340	331	302	311	317	299	299	294	299	303	264	123	6.72	
1971–75	233	344	400	389	356	354	340	326	321	297	305	285	258	265	245	122	6.80	+.08
Kalimantan																		
1967–70	243	301	322	334	323	352	365	329	313	316	303	259	237	243	237	122	6.56	
1971–75	217	298	334	344	344	324	320	317	315	311	295	286	273	242	228	113	6.38	–.18
Sulawesi																		
1967–70	218	289	310	309	335	340	311	329	354	339	324	308	308	292	283	135	6.89	
1971–75	226	331	370	365	353	340	358	336	319	309	306	292	286	303	256	131	6.92	+.03

Table 29. Cumulated Fertility up to Age 35 from the FM and SUPAS II Surveys, by Region: Indonesia

	FM Survey						SUPAS II	
	1957-66		1967-70		1967-72		1967-70	
Region	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
West Java	4.95	5.00	5.35	5.22	5.04	4.99	4.60	4.54
Central Java	4.36	4.13	4.60	4.36	4.28	4.23	4.32	3.85
East Java	3.96	3.67	4.16	3.71	3.89	3.67	3.80	3.58
Bali	4.61	—	4.66	—	4.18	—	4.20	3.88
Sumatra	5.63	5.45	5.72	5.07	5.41	4.90	4.91	4.86
Sulawesi	5.06	4.76	5.22	4.62	4.93	4.40	4.69	4.42

29, along with corresponding indices from the SUPAS II own-children estimates. The births reported for the two years before the FM Survey showed a sharp decline from previous levels. The authors argue that this fall was due to data errors, a conclusion that receives powerful support below. If, as a rough approximation, it is assumed that the "missing" births were recorded as occurring in slightly earlier years, then the average fertility indices for 1967-72 will be more reliable than those for 1967-70. Table 29 demonstrates that the former are in better agreement, both with the 1957-66 averages and the SUPAS II results.

Although the comparisons show some inconsistencies—not surprising in view of the vulnerability of the calculations to a variety of biases—the general conclusions are clear. The FM measures show little, if any, difference between 1957-66 and 1967-72. There are indications of falls for Sumatran urban areas and Bali, but the latter inference depends on the very low reported births for 1971-72.

The agreement between indices for SUPAS II (1967-70) and the FM Survey (1967-72) is good for East Java and Bali and moderately good for Central Java and Sulawesi. The discrepancy is considerable for West Java and Sumatra. The most plausible explanation may be the effect of age errors in determination of the dividing point at 35 years. This uncertainty does not seriously alter the assessment of the relative fertility levels in the regions, with the lowest measure in East Java and the highest in Sumatra. The censoring at age 35 years is a limitation; however, since only just over one child per woman was born after that age in Indonesia, the broad conclusions should be applicable to the total fertility rates as well.

The Indonesian Fertility Survey (IFS)

The IFS (SUPAS III) was restricted to Java and Bali, covering about two-thirds of the population. In the SUPAS II estimates, the TFRs for Java plus

Table 30. Estimates of Total Fertility in Calendar Years from the Indonesian Fertility Survey, 1964–75: Java and Bali

Year	IFS	Fitted Model (relational Gompertz)
1964	5.53	
1965	5.90	
1966	5.42	5.12
1967	5.77	5.10
1968	5.42	5.09
1969	5.44	5.06
1970	5.61	5.03
1971	5.56	4.98
1972	5.23	4.92
1973	4.78	4.86
1974	3.95	4.80
1975	4.53	4.71

Bali in 1966–70 and 1971–75 were 5.12 and 4.80, respectively, compared with 5.46 and 5.15 for the whole of Indonesia. The differential of over 0.3 births per woman has to be borne in mind in comparisons of the two data sources. Table 30 shows TFRs by calendar years from 1964 calculated from the IFS birth histories, and also values derived from a fitted model. The IFS measures, which are taken from Supraptilah (1982), include estimates for fertility after age 45 for 1970–73 and after age 40 for 1964–69; any resulting biases will be small, however. The model is described below.

The IFS data record fertility levels for 1967–70 are not much different from the SUPAS I and II own-children estimates, but for 1971–75 the IFS estimate is lower than SUPAS I and II as the following table shows:

	1967–70	1971–75
SUPAS I	5.66	5.08
SUPAS II	5.46	5.12
IFS	5.56	4.81

Taken at face value, TFRs calculated from the IFS fell by 13 percent between 1966–70 and 1971–75 and by as much as 20 percent between 1966–70 and 1973–75 (if it is assumed that the deficiency of births in 1974 is due to displacement into the years on either side). The trend downward is much faster than that implied by the own-children estimates. There is, however, a need for caution. It has been established that a common bias in maternity history surveys is an overstatement of the numbers of births occurring some five to 15 years before the current time (the "Potter effect"). The displaced births may have come mainly from earlier times (more than 15 years before), or both from earlier times and from the transportation backward of births in the preceding few years. Well-studied examples of the two types are the Kenya Fertility Survey of 1978 (one of the WFS series) and the Pakistan National Impact Survey of 1963. The evidence suggests that the exact form of the birth displacement varies from survey to survey, but that it generally leads to either an apparent recent fall in fertility where none has occurred or an exaggeration of an existing trend.

It is not easy to prove that a "Potter effect" is present from internal comparisons within one data set unless the distortion is large. However, some indications exist in the IFS results. The simplest indication emerges from a comparison of the TFRs of cohorts and time periods. These measures for cohorts aged 40-44, 35-39, and 30-34 at the time of the survey are all estimated at close to 5.40 births per woman after extrapolation to the end of the childbearing period. The error from the extrapolation must be quite small, particularly for the age 40-44 and 35-39 cohorts; falling fertility would imply, if anything, slightly lower values. The women aged 45-49 reported only 5.15 births each, probably because of some omissions. In contrast, the time-period total fertilities for the calendar years 1964-70 average 5.58, suggesting an excess of births allocated to this period.

A more incisive examination is possible with the aid of models of fertility by age. Here, the Gompertz relational system was applied. The basic equation is $Y(x) = \alpha + \beta Y_s(x)$, where $Y(x) = - ln [- l_n F(x)/F]$, with $F(x)$ the cumulated fertility to age x and F the total fertility. The $Y_s(x)$ are the double logarithms of a standard pattern arrived at empirically. α and β are two parameters that vary the location and spread of the fertility rates by age. The most effective procedure for fitting the model to birth history data is to determine a β value from the patterns of rates by age for the middle cohorts (25-29 and 30-34 years at the time of the survey). Average α values are then found separately for each cohort and smoothed over time if necessary (Brass, 1981). Once the α and β fertility pattern parameters have been fixed, the level F is determined for each cohort to give the reported mean births per woman at the time of the survey. The fitting then does not alter the number of births recorded, but may reallocate them over time.

The fitted model gives greatly modified estimates of TFRs in calendar years. Although the reported and fitted averages for 1971-75 are about the same, the latter show a much slower fall, with correspondingly higher values in 1974 and 1975 and lower values in 1971. The discrepancy in 1966-70 is substantial. Closer examination shows that the deviations of the observed measures from the fitted ones are due to the discrepant patterns of births over time for the cohorts of women aged 25–29, 30–34, and 35–39. At younger ages, the agreement is satisfactory; at later ages, the distortions mainly affect the fertility in earlier calendar years. For example, the age 30–34 cohort of women reported births per 1,000 as 264, 258, 259, and 268 in 1971, 1970, 1969, and 1968, respectively, as compared with the model estimates of 226, 234, 241, and 248 (on average 10 percent lower). It is impossible to find a pattern from the model system, which reasonably graduates the observations, without arriving at estimates of births in 1968–71 considerably lower than those reported. It can of course be argued that the standard pattern is not appropriate for Indonesia, and that a more peaked configuration would give better agreement between model and observations. Since the "excess births" relative to the model occur at increasingly later ages as the cohorts become older, it is not clear that changing the pattern would greatly modify the results.

The TFRs estimated from the relational Gompertz fitting increase gradually as time recedes, to around 5.4 in the late 1950s. They become increasingly vulnerable to omissions by older women, for which no allowance has been made. The method may also smooth out sharper time-period changes and translate them into gradual trends. The estimates show a decrease in fertility of about 8 percent from 1966–75, with another 5 percent overall decrease occurring earlier. It is possible that some of the 5 percent can be allocated to the latter period, giving a downward trend of about 1 percent per year.

Children Ever Born, SUSENAS, 1979

The multi-purpose National Socio-Economic Survey (SUSENAS) of 1979 included a module of questions on fertility and family planning. The only relevant measures of fertility calculated are the mean parities by age group of women. Table 31 compares the results for Java plus Bali with the corresponding measures from the IFS.

The agreement between the two sets of reported mean parities is remarkably close. However, if fertility had fallen by 1975 to the extent suggested by the IFS measures, the mean parities for the cohorts should have fallen by 1979. The projected mean parities in the table were arrived at by adding births at the average age-specific rates reported for 1973–75 in the IFS. By 1979, the cohort effects should have been appreciable, particularly for women aged 25–34. Although refined assessment is impossible in such a comparison because of response and sample errors in the different surveys, the lack of any sign of a trend makes it difficult to accept the IFS fertility measures for 1973–75 as valid.

Table 31. Mean Parities for Women as Reported in the Indonesian Fertility Survey (IFS), 1976, and the National Socio-Economic Survey (SUSENAS), 1979: Java and Bali

	IFS, 1976		SUSENAS, 1979
Age of women	Reported	Projected to 1979	Reported
15–19	0.198	—	0.232
20–24	1.248	1.160	1.256
25–29	2.557	2.407	2.587
30–34	3.902	3.645	3.827
35–39	4.707	4.586	4.779
40–44	5.241	5.141	5.179
45–49	5.153	—	5.231

The 1980 Census

At the time this report was prepared, the only data available from the September 1980 census that could be used for fertility estimates was the single-year age distribution. Despite its limitations, this evidence is crucial to resolving the uncertainties about trends. If the rate of fertility decline in the early 1970s was anywhere near as rapid as that indicated by the unadjusted IFS reports, the results should appear in the numbers of children. The TFRs in Table 32 have been derived by conventional reverse-survival techniques. The life table constructed for the mid-1970s in Chapter 3 was used to estimate the numbers of births, in each of the sixteen years before the census, required to give the survivors at single years of age in September 1980. Similarly estimated were the numbers of women in five-year age groups at the time of the births. The TFRs were taken at levels that would give the determined numbers of births to women with the age-specific fertility pattern of the SUPAS II estimates for 1971–75. Alternative plausible patterns were examined, but the differences in estimates were negligible. The IFS data on child mortality indicate that rates changed little in the late 1960s and the first half of the 1970s. Therefore, it seemed unnecessary to incorporate highly speculative adjustments for falling mortality, although the possibility will be considered when the estimates for the late 1970s are assessed.

The TFRs based on the raw data suggest, anomalously, that the level went up from 5.35 in 1967–70 to 5.53 in 1971–75, although there was a substantial fall thereafter. An examination of the single-year measures reveals that the comparative regularity of the age numbers at ages under 7 may partly disguise considerable distortion. The high concentrations of births in 1970–73 (ages 7–10) has no supporting evidence, and the sharp troughs

Table 32. Estimates from Reverse Survival, 1980 Census: Indonesia

Year to September	Total fertility	Average	Three-year average	Adjusted total fertility	Average	Three-year average
1965	5.57					
1966	4.71			4.90		
1967	4.83	5.35	5.16	5.02	5.50	5.37
1968	5.95		5.14	6.19		5.35
1969	4.64		5.52	4.83		5.66
1970	5.96		5.46	5.96		5.42
1971	5.79	5.53	5.79	5.47	5.34	5.58
1972	5.63		5.76	5.32		5.44
1973	5.85		5.54	5.53		5.33
1974	5.13		5.40	5.13		5.30
1975	5.23		5.16	5.23		5.16
1976	5.13		5.10	5.13		5.10
1977	4.93		4.91	4.93		4.91
1978	4.68			4.68		
1979	4.09					
1980	3.77					

in 1969, 1967, and 1966 (ages 11, 13, and 14) demonstrate the unreliability of age reporting. An analysis of the age errors discussed in Chapter 2 suggests that the numbers at ages 10–14 may have been understated by 3.1 percent and those at ages 5–9 inflated by 3.3 percent. A rough adjustment consistent with this has been applied by increasing the TFRs in 1966–69 by 4 percent and reducing those in 1971–73 by 5.5 percent. The resulting measures give a more sensible configuration. For example, the fertility level in 1967–70 is in rough agreement with the SUPAS I and II and 1971 census own-children estimates. To obtain results similar to IFS direct reports, a massive reallocation would be required, with numbers at ages 10–14 being increased and at ages 5–9 reduced by some 9 percent. A transposition of this size would make no sense in relation to the numbers in the early adult ages, particularly ages 15–19.

The Fertility Trend

Table 33 draws together various estimates from which fertility trends can be assessed. All have been described above except the simple, direct calculation from comparison of the 1980 and 1971 censuses, which was carried out as follows:

	1971	1980	Ratio of 1980/1971
Ratio of children aged 1–4 to 1,000 women aged 22–41	956	855	.894
Ratio of children aged 2–5 to 1,000 women aged 22–41	945	867	.917
Average			.906

There were clear deficiencies in the ratio of children aged 1–4, which was much greater in 1971 than 1980. The age range of women was chosen to include the great majority of mothers of children in the numerator, and to reduce the errors of digit preference. The reduction in the ratios between the two censuses is a measure of the fertility trend. The average was applied to the own-children estimate of total fertility from the 1971 census to give the value approximately located in 1976–78.

Apart from the unadjusted IFS results, the picture is reasonably coherent. Total fertility was about 5.5 in 1967–70 and not much different back to the late 1950s. By 1971–75, it was around 5.2. In the late 1970s, the rate had fallen to perhaps 4.8, including an allowance for an expected decrease in infant mortality. A regular downward trend in fertility of about 1 percent a year is suggested.

Own-children estimates from the 1980 census have recently become available and are shown in the last column of Table 33. The agreement between the own-children and the reverse-survival estimates is very close. For the two later periods, 1971–75 and 1976–78, the two estimates are essentially identical. For the earlier period, 1967–70, the own-children estimate is about 6 percent below the reverse-survival estimate. The own-children estimates thus confirm the overall picture of fertility change presented here.

Table 33. Estimates of Trends in Total Fertility: Indonesia

		IFS[a]			1980 census	
Period	SUPAS II	Reported	Adjusted	1971 and 1980 censuses	Adjusted reverse survival	Own-children
1967–70	5.46	5.91	5.42	5.52	5.50	5.19
1971–75	5.12	5.16	5.20		5.34	5.36
1976–78				5.00	4.91	4.83

a. 0.35 has been added to each measure to allow roughly for the differential between Java plus Bali and the whole of Indonesia.

The 1980 census age-distribution estimates show a rapid fertility decline in the three years before the census. However, this could easily be explained by a combination of omissions of very young children and age errors. Something similar occurred in the 1971 census, although the pattern was not exactly the same. In addition, it is now clear that the births in the preceding two or three years were considerably underreported in both the IFS and the FM Survey, presumably because of time location errors. This experience emphasizes the dangers of drawing conclusions about current fertility levels from such exercises; the data are not strong enough to determine whether the rate of fertility decline was accelerating in the late 1970s.

Contraceptive Prevalence

According to the 1976 Indonesian World Fertility Survey in Java and Bali 28 percent of currently married women aged 15-44 were using contraception (modern and traditional methods). Prevalence was highest among women in their 30s, although the differentials by age were not large, except for the age group 15-19, as shown here:

Age group	Percentage currently using contraception
15-19	13
21-24	27
25-29	33
31-34	34
35-39	31
41-44	23

Only 13 percent of married women with one child or none used contraception, compared with slightly more than a third of the women with two or more living children. There was little difference between the level of contraceptive prevalence among women living in urban and rural areas, i.e., 27 and 31 percent. However, when examined by both parity and residence, a clear difference emerges. In the urban areas, nearly half of the women with four or more living children were using contraception in 1976, compared with only 34 percent of those in the rural areas.

Number of children	Residence	
	Urban	Rural
0-1	8	14
2-3	35	35
4+	46	34

A 1983 survey (Contraceptive Prevalence Survey) of five cities showed that prevalence ranged from 33 percent in Ujung Pandang to 54 percent in Semarang, with Medan (36 percent), Jakarta (44 percent), and Surabaya (47 percent) at intermediate levels. The differences by parity among these urban women remained; for example, among women with 0–1 and 4+ children, prevalence ranged from 19 to 44 percent in Jakarta, from 19 to 59 percent in Surabaya, and from 31 to 66 percent in Semarang.

The National Family Planning Coordinating Board calculates prevalence of modern contraceptive methods on a continuous basis, using data on new acceptors of family planning and continuation rates obtained from special studies. This series shows that for the country as a whole, among currently married women 15–44, prevalence increased from 1 percent in 1971 to 17 percent in 1976, to 36 percent in 1981, and to 39 percent in 1982. (The years refer to the Indonesian fiscal year, April 1 through March 31.) The 1976 estimate for Java and Bali—21 percent for modern methods—compares favorably with the estimate of 28 percent for current use obtained for that year from the World Fertility Survey. The WFS figure includes both modern and traditional methods, making the differences smaller. The WFS reports also provide estimates of ever use of modern or traditional contraceptive methods: any method, 41 percent; any traditional method, 11 percent; any modern method, 36 percent. The latter two numbers indicate that some women used both modern and traditional methods, since the total of both types is more than 41 percent. The WFS findings suggest that perhaps one fifth to one quarter of the total prevalence in 1976 was traditional methods. This means that current use of modern methods in Java and Bali at the time of the survey was about 21-23 percent, close to the 21 percent estimated by the program.

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GLOSSARY

Age Heaping. A tendency for enumerators or respondents to report certain ages instead of others; also called age preference or digit preference. Preference for ages ending in 0 or 5 is widespread.

Age Pattern of Fertility. The relative distribution of a set of age-specific fertility rates. It expresses the relative contribution of each age group to total fertility.

Age Ratio. The ratio of the population in a given age group to the average of the populations in the two neighboring age groups, times 100.

Age-Specific Fertility Rate. The number of births occurring during a specified period to women of a specified age or age group, divided by the number of person-years lived during that period by women of that age or age group. When an age-specific fertility rate is calculated for a calendar year, the number of births to women of the specified age is usually divided by the mid-year population of women of that age.

Age-Specific Mortality Rate. The number of deaths occurring during a specified period to persons (usually specified by sex) of a specified age or age group, divided by the number of person-years lived during that period by the persons of that age or age group. When an age-specific mortality rate is calculated for a calendar year, the number of deaths to persons of the specified age is usually divided by the mid-year population of persons of that age. Age-specific mortality rates are generally denoted by ${}_nM_x$, the annual death rate to persons aged x to $x + n$.

Age Standardization. A procedure of adjustment of crude rates (birth, death, or other rates) designed to reduce the effect of differences in age structure when comparing rates for different populations.

Birth History. A report of the number and dates of all live births experienced by a particular woman; see also *pregnancy history.* The sex of each child, the survival of each child to the date of the interview, and, where pertinent, the date of death are also generally recorded.

Birth Order. The ordinal number of a given live birth in relation to all previous live births of the same woman (e.g., 5 is the birth order of the fifth live birth occurring to the same woman).

Birth Rate. See *crude birth rate.*

Chandrasekaran–Deming Technique. A procedure to estimate the coverage of two independent systems collecting information about demographic or other events, based on the assumption that the probability of an event being recorded by one system is the same whether or not the event is recorded by the other system. The events from both systems are matched to establish M, the number of events recorded by both systems; U_1, the number recorded only by system 1; and U_2, the number recorded only by system 2. The Chandrasekaran–Deming formula then estimates total events, N, as

$$\hat{N} = M + U_1 + U_2 + \frac{U_1 U_2}{M} .$$

Childbearing Ages. The span within which women are capable of bearing children, generally taken to be from age 15 to age 49 or, sometimes, to age 44.

Children Ever Born(e). The number of children ever borne alive by a particular woman; synonymous with parity. In demographic usage, stillbirths are specifically excluded.

Cohort. A group of individuals who experienced the same class of events in the same period. Thus an age cohort is a group of people born during a particular period, and a marriage cohort is a group of people who married during a particular period. The effects of a given set of mortality or fertility rates are often illustrated by applying them to hypothetical cohorts.

Cohort Fertility. The fertility experienced over time by a group of women or men who form a birth or a marriage cohort. The analysis of cohort fertility is contrasted with that of period fertility.

Crude Birth Rate. The number of births in a population during a specified period divided by the number of person-years lived by the population during the same period. It is frequently expressed as births per 1,000 population. The crude birth rate for a single year is usually calculated as the number of births during the year divided by the mid-year population.

Crude Death Rate. The number of deaths in a population during a specified period divided by the number of person-years lived by the population during the same Period. It is frequently expressed as deaths per 1,000 population. The crude death rate for a single year is usually calculated as the number of deaths during the year divided by the mid-year population.

Cumulated Fertility. An estimate of the average number of children ever borne by women of some age x, obtained by cumulating *age-specific fertility rates* up to age x; also often calculated for age groups.

Death Rate. See *crude death rate.*

De Facto Population. A population enumerated on the basis of those present at a particular time, including temporary visitors and excluding residents temporarily absent. See *de jure population.*

De Jure Population. A population enumerated on the basis of normal residence, excluding temporary visitors and including residents temporarily absent. See *de facto population.*

Digital Preference. See *age heaping.*

Dual Record System. See *Chandrasekaran–Deming technique.*

Expectation of Life at Birth. The average number of years that a member of a cohort of births would be expected to live if the cohort were subject to the mortality conditions expressed by a particular set of *age-specific mortality rates.* Denoted by the symbol $e(0)$ in *life table* notation.

Fertility History. Either a birth history or a pregnancy history.

Forward Survival. A procedure for estimating the age distribution at some later date by projecting forward an observed age distribution. The procedure uses survival ratios, often obtained from model life tables. The procedure is basically a form of population projection without the introduction of new entrants (births) to the population.

General Fertility Rate. The ratio of the number of live births in a period to the number of person-years lived by women of childbearing ages during the period. The general fertility rate for a year is usually calculated as the number of births divided by the number of women of childbearing ages at mid-year.

Gross Reproduction Rate. The average number of female children a woman would have if she survived to the end of her childbearing years and if, throughout, she were subject to a given set of age-specific fertility rates and a given sex ratio at birth. This number provides a measure of replacement fertility in the absence of mortality.

Growth Rate. The increase or decrease of a population in a period divided by the number of person years lived by the population during the same period. The increase (or decrease) in a population is the result of a surplus (or deficit) of births over deaths and a surplus (or deficit) of immigrants over emigrants. (The annual increase is often expressed as a fraction of the total population at the beginning of the year, but this convention has the inconvenient characteristic of not being readily defined for a five-year interval and of being unequal to the difference between the birth rate and the death rate even in the absence of migration.) See also *rate of natural increase.*

Infant Mortality Rate. The number of deaths of children under 1 year of age occurring in the same year; also used in a more rigorous sense to mean the number of deaths that would occur under 1 year of age in a *life table* with a *radix* of 1,000, in which sense it is denoted by ${}_1q_0$.

Life Table. A listing of the number of survivors at different ages (up to the highest age attained) in a *hypothetical* cohort subject from birth to a particular set of *age-specific mortality rates.* The rates are usually those observed in a given population during a particular period of time. The survivors of the radix to age x are generally denoted by $l(x)$. The tabulations commonly accompanying a life table include other features of the cohort's experience: its expectation of life at each age x, denoted by $e(x)$; the probability of surviving from each age x to age $x + n$, denoted by ${}_nq_x$; the person-years lived by the hypothetical cohort as it ages from age x to age $x + n$, denoted by ${}_nL_x$ (also equivalent to the population aged $x, x + n$ in a *stationary population* experiencing a number of births each year equal to the *radix* of the life table); and the person-years lived by the hypothetical cohort from age x onward, denoted by $T(x)$.

Logit. The logit of a proportion p is $\frac{1}{2}\, ln[p/(1 - p)]$. As a linearizing transformation, the logit has been proposed as the basis of a model life table system in which the logit of a probability of dying by age x (${}_xq_0$) is related linearly to the logit of a standard probability of dying by age x (${}_xq_0^s$) so that

$$\text{logit}\ ({}_xq_0) = \alpha + \beta\ [\text{logit}\ ({}_xq_0^s)],$$

where α is a measure of mortality level relative to the standard and β is a parameter that alters the shape of the standard mortality function.

Marital Fertility. Any measure of fertility in which the births (in the numerator) are births to married women and in which the number of person-years lived (in the denominator) also pertains to married women. In some instances, the designation "married" includes persons in consensual unions.

Mean Age at Childbearing. The average age at which a mortality-free cohort of women bear their children according to a set of *age-specific fertility rates.*

Mean Age at Childbearing in the Population. The average age of the mothers of the children born in a population during a year. This measure incorporates the effects of both mortality and the age distribution.

Median. The value associated with the central member of a set that is ordered by size or some other characteristic expressed in numbers.

Migration Rate. Number of migrants during a specified period divided by the person-years lived of the population exposed to migration. See also *population change due to migration.*

Model Life Table. An expression of typical mortality experience derived from a group of observed life tables.

Moving Averages. The successive averaging of two or more adjacent values of a series in order to remove sharp fluctuations.

Myers's Index. An index of digit preference that essentially sums in turn the population ending in each digit over some age range, often 10–89, expressing the total as a percentage of the total population, and which avoids the bias introduced by the fact that the population is not evenly distributed among all ages by repeating the calculations 10 times, once for each starting digit, and averaging the results. The difference between the average percentage for each digit and the expected value of 10 percent provides a measure of the preference for or avoidance of the digit over the age range considered.

Natural Fertility. The age pattern of *marital fertility* observed in noncontraceptive populations where reproductive behavior is not affected by the number of children already born.

Net Migration. The difference between gross immigration and gross emigration.

Net Reproduction Rate. The average number of female children born per woman in a *cohort* subject to a given set of *age-specific fertility rates,* a given set of *age-specific mortality rates,* and a given *sex ratio at birth.* This rate measures replacement fertility under given conditions of fertility and mortality. It is the ratio of daughters to mothers, assuming continuation of the specified conditions of fertility and mortality.

Own-Children Method. A refinement of the *reverse-survival* procedure for fertility estimation, whereby estimates of *age-specific fertility rates* for the recent past are obtained by relating mothers to their own children, using information on relationship and other characteristics available from a census or survey.

Parity. See *children ever born.*

Partial Birth Rate. The proportion of the population that enters (that is, is "born" into) a given age category in a year. The age categories used are normally open-ended; thus the partial birth rate $x+$ designates the proportion of the population becoming x years and older.

Partial Death Rate. The proportion of the population that leaves (that is, "dies" out of) a given age category in a year. See *partial birth rate.*

Period Fertility. The fertility experienced during a particular period of time by women from all relevant birth or marriage *cohorts*. See also *cohort fertility.*

P/F Ratio Method. A consistency check for survey information on fertility. Information on recent fertility is cumulated to obtain measures that are equivalent to average parities. Lifetime fertility in the form of reported average parities by age group P can then be compared for consistency with the parity-equivalents F by calculating the ratio P/F for successive age groups. If certain assumptions about error patterns are met, an improved estimate of fertility can sometimes be obtained by correcting the age pattern of current fertility to agree with the level of lifetime fertility reported by younger women.

Population Change Due to Migration. The sum of in-migrants minus out-migrants during a specified period of time. The change may also be expressed as a rate by dividing the change by person-years lived in the population during the same period.

Pregnancy History. A report of the number and the dates of occurrence of all the pregnancies experienced by a particular woman. The outcome of the pregnancy—live birth, stillbirth, or fetal death—is also recorded.

Radix. The hypothetical birth *cohort* of a *life table.* Common values are 1, 1,000, and 100,000.

Rate of Natural Increase. The difference between the births and deaths occurring during a given period divided by the number of person-years lived by the population during the same period. This rate, which specifically excludes changes resulting from migration, is the difference between the *crude birth rate* and the *crude death rate.*

Retrospective Survey. A survey that obtains information about demographic events that occurred in a given past period, generally terminating at the time of the survey.

Reverse Projection. See *reverse survival.*

Reverse Survival. A technique to estimate an earlier population from an observed population, allowing for those members of the population who would have died according to observed or assumed mortality conditions. It is used as a method of estimating fertility by calculating from the observed number of survivors of a given age x the expected number of births that occurred x years earlier. (In situations for which both fertility and mortality are known or can be reliably estimated, reverse survival can be used to estimate migration.)

Robustness. A characteristic of estimates that are not greatly affected by deviations from the assumptions on which the estimation procedure is based.

Sex Ratio at Birth. The number of male births for each female birth, or male births per 100 female births.

Singulate Mean Age at Marriage (SMAM). A measure of the mean age at first marriage, derived from a set of proportions of people single at different ages or in different age groups, usually calculated separately for males and females.

Stable Population. A population exposed for a long time to constant fertility and mortality rates, and closed to migration, establishes a fixed age distribution and constant growth rate characteristic of the vital rates. Such a population, with a constant age structure and constant rate of growth, is called a *stable population.*

Stationary Population. A *stable population* that has a zero growth rate, with constant numbers of births and deaths per year. Its age structure is determined by the mortality rates and is equivalent to the person-years lived (${}_nL_x$) column of a conventional life table.

Survival Ratio. The probability of surviving between one age and another; often computed for age groups, in which case the ratios correspond to those of the person-years-lived function, ${}_nL_x$, of a life table. Also called *survivorship probabilities.*

Survivorship Probabilities. See *survival ratio.*

Synthetic Parity. The average parity calculated for a hypothetical cohort exposed indefinitely to a set of period age-specific fertility rates.

Total Fertility Rate (TFR). The average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given set of *age-specific fertility rates;* also referred to as *total fertility.* It is frequently used to compute the consequence of childbearing at the rates currently observed.

United Nations Age–Sex Accuracy Index. An index of age-reporting accuracy that is based on deviations from the expected regularity of population size and sex ratio, age group by age group. The index is calculated as the sum of (1) the mean absolute deviation from 100 of the age ratios for males, (2) the mean absolute deviation from 100 of the age ratios for females, and (3) three times the mean of the absolute difference in reported sex ratios from one age group to the next. The United Nations defines age–sex data as "accurate," "inaccurate," or "highly inaccurate" depending on whether the index is less than 20, 20 to 40, or greater than 40.

Whipple's Index. A measure of the quality of age reporting based on the extent of preference for a particular target digit or digits. The index essentially compares the reported population at ages ending in the target digit or digits with the population expected on the assumption that population is a linear function of age. For a particular age range, often 23 to 62, the population with ages ending in the target digits is divided by one-tenth of the total population, the result then being multiplied by 100 and divided by the number of different target digits. A value of 100 indicates no preference for those digits, whereas values over 100 indicate positive preference for them.

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